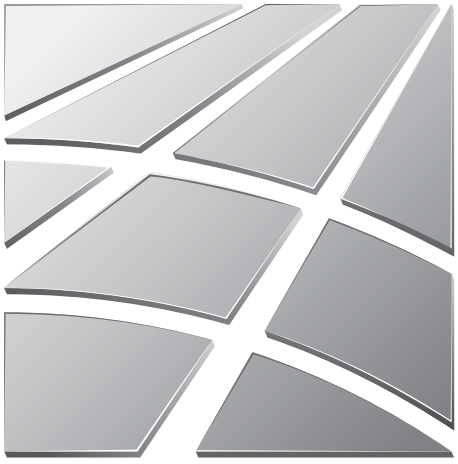
2010



Sustainability Report

Terna

Terna is a large operator of grids for the transportations of energy.
It manages electricity transmission in Italy and guarantees its security, quality, and affordability over time.
It ensures equal conditions of access for all grid users. It develops market activities and new business opportunities with the experience and technical competence acquired in the management of complex systems.
It creates value for shareholders through a strong commitment to professional excellence and responsible attitude towards the community, while respecting the environment in which it operates.

Translation from the Italian original, which remains the definitive version.

2010

Sustainability Report

Terna

Contents

Letter to our stakeholders

In 2010 Terna recorded excellent results from the economic point of view. Continuing along the same path as in the previous years, we ended the year with the twentieth quarter in a row of continuous growth, with two-figure increases in revenue, gross margin, and net income. In a nutshell, these are the best numbers ever, the fruit of both advances on the front of traditional activities and new initiatives. These results materialized during the year and were recognized by the financial markets. In 2010, Terna's shares appreciated by more than 5 percentage points, bucking the negative trend of the Italian blue chips. Terna was the only European utility to achieve in 2010 its highest value ever.

Our satisfaction in presenting these results would not be complete without the awareness of having worked to create value not only for our shareholders, but also for our other stakeholders and for society in general. Therefore, we are anxious to emphasize that – as we had foreseen and promised – 2010 was the year of construction sites. The activities of Terna's 300 construction sites determined a sharp increase in investment – from 900 million euro in 2009 to 1,162 million euro in 2010, about 30% – in our core activities. In 12 months we constructed more than 1,000 kilometers of new electric lines and 48 new stations. This is an important achievement, because Terna's infrastructure construction means increased security and better service to the benefit of the entire country, as well as a positive impact on the economy and employment. In 2010, Terna's construction sites provided employment amounting to that of almost 2,000 full-time employees.

Our revenue in 2010 benefitted from, among other things, the bonuses obtained on the basis of the incentive schemes designed by the regulatory Authority, mainly with regard to the dispatching-service market. These incentives were conceived to generate multiple benefits for the electric system and society through positive performances. With our photovoltaic investment, which was developed and sold in only a few months, we not only earned extra revenue and profits, but also made a concrete contribution to Italy's environmental objectives through a 10% increase in the generating power of the country's photovoltaic plants and – when they are operating at full capacity – a reduction of the system's CO_2 emissions by about 135,000 tons a year.

This Report explains clearly our commitment to responsible management of the electricity service and the economic, social, and environmental impacts of our business. An important role is played by our approach to local communities, which we have followed consistently over time and is marked by receptiveness to the needs of stakeholders, our objective of implementing the Grid Development Plan expeditiously being understood. In 2010 we continued to seek agreement on the location of new lines and stations through discussion with the Regions and other local governments concerned by our development projects. One of the new agreements signed was with the regional government of Sicily for the development of the island's electric grid. Our willingness to discuss did not falter, but on the contrary was intensified, in the presence of protests by local committees, as it was in the case of Friuli-Venezia Giulia, where we also

tried out new forms of listening and communicating, characterized, as always, by transparency. In the same spirit, we have also provided all our stakeholders a complete picture of the state of these activities through a dedicated section of our website, called “Terna’s construction sites for Italy”, where we show the works that have been completed and those that are in progress, as well as any that have been held up by delays in the authorization process.

With regard to the environment, in 2010 we continued our active cooperation with the WWF, which led, among other things, to work that enhanced three nature reserves, and with the LIPU in studying the interactions between electric lines and birdlife. In the International Year of Biodiversity, we boosted the installation of nesting boxes on our towers, thus encouraging the nesting of new protected species, such as the European roller, in addition to the traditional presence of raptors. We tried out new, less cumbersome towers with a lighter impact on the landscape and speeded up our plan for eliminating equipment containing oil with PCB, achieving results that exceeded the obligations of the law.

As usual, our people were involved in a training program aimed at the optimal integration of newly hired employees and, especially, at the continuing development of those already working at the Company. A comparison with other large listed companies – an innovation in this Report, which we intend to extend in the future, so that readers can compare the Company’s performance with an external benchmark – shows that Terna is well above average in this respect.

Among the many initiatives in which our people were involved, particularly significant were the meetings – in both local offices and with the central departments – regarding sustainability, and especially the experiences shared by several colleagues who, as volunteers, made a decisive contribution to the construction of an electric line in the Bolivian Andes and thus to the development of the local communities. This was a philanthropic project for sustainable development that Terna supported in partnership with the NGO Coopi. The return of value to society was the motive for organizing the Terna Prize 03, an initiative that for the third year promoted Italian artists in their professional development and relations with the international market.

The year 2010 also abounded in recognitions of our commitment to sustainability. Among many others, we would like to mention in particular Terna’s confirmation in the Dow Jones Sustainability Index World and its inclusion in the Index Europe, which numbers us among the most highly capitalized companies with the best sustainability performances. This is a credential that distinguishes us positively in the eyes of the increasingly numerous investors who include non-financial performances in their investment decisions and constitutes an incentive that strengthens our determination to achieve increasingly significant results from the economic, environmental, and social points of view.

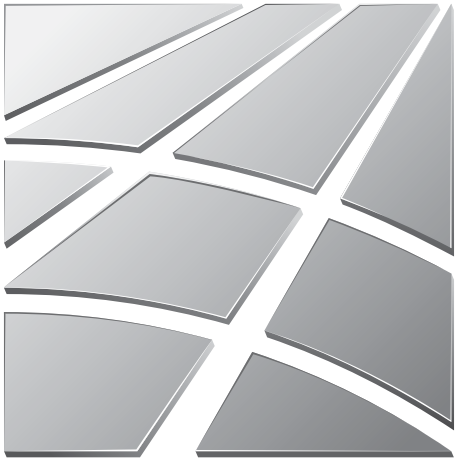
Chairman
LUIGI ROTH

Chief Executive Officer
FLAVIO CATTANEO

Father Serafino

FATHER SERAFINO HAS HEADED THE SALESIAN MISSION IN KAMI (BOLIVIA) SINCE 1985. HE TAKES CARE OF SOULS, BUT IS ALSO A TIRELESS WORKER WITH MANY PROJECTS TO IMPROVE THE QUALITY OF HIS PEOPLE'S LIVES. WHEN HE SAW AN ABANDONED HYDRO POWER PLANT, HE HAD A SOCIAL ENTREPRENEUR'S INTUITION. TO DEVELOP SUSTAINABLY, YOU COULD PRODUCE AND SELL ELECTRIC POWER.

2010



The Report in a nutshell

Terna

The Report in a nutshell

Terna

With a high-voltage electric grid of more than 63,000 kilometers extending all over Italy, Terna is the leading independent transmission company in Europe and the seventh-largest in the world in terms of the number of kilometers managed.
The Company is the main owner of the National Transmission Grid and is responsible for the transmission and dispatching of electricity throughout Italy, i.e. the secure management – around the clock, 365 days a year – of the equilibrium between electricity demand and supply in Italy, as well as the planning, development, and maintenance of the grid.
In addition to providing the transmission service in Italy, Terna has development projects in several Balkan countries and North Africa for constructing new interconnections and increasing Italy's import capacity to the benefit of the security of the country's electric system (pp. 34-37). The Company is also engaged in developing non-traditional activities. In 2010, the most important project regarded the construction and sale of photovoltaic plants. Headed by Chief Executive Officer Flavio Cattaneo and Chairman Luigi Roth, Terna has been listed on Borsa Italiana since June 2004. The largest shareholder is Cassa Depositi e Prestiti, with 29.86% of the share capital as of March 2011, while socially responsible investors (SRI) hold 14%.

The most significant events of 2010

During 2010 Terna concentrated successfully on two areas: its core business and opportunities outside its traditional activities, while always keeping its sustainability objectives in mind.
With regard to grid development, the Company continued its accelerated pace of the last few years, constructing more than 1,000 km of new electric power lines and 48 new stations. Investment increased to 1,162 million euro (+ 30% with respect to 900 million euro in 2009).
With its Photovoltaic Project, one of its unregulated activities, in a few months Terna developed and then sold production plants that increased Italy's photovoltaic production capacity by 10%, with benefits for both its shareholders and the environment (p. 34).
The following should be noted in particular:

- With the signing by the Ministry of the Environment of the Ministry of Economic Development's authorization decree, on July 7, 2010 the "Sorgente-Rizziconi" electric connection between Sicily and Calabria receives the definitive go-ahead. The planned investment amounts to more than 700 million euro. When it is operating at full capacity, the line will enable the electric system to save 800 million euro a year.
- On October 18, 2010 Terna signs an agreement for the sale of its subsidiary Rete Rinnovabile, the company that manages the photovoltaic project, to the private equity fund Terra Firma. Estimated to be between 620 and 670 million euro, the value of the transaction is set at 641 million euro at the closing on March 31, 2011.
- On November 4, 2010 Terna is included for the first time in the Dow Jones Sustainability Europe Index and is confirmed in the Dow Jones Sustainability World Index.
- In the presence of the Minister of Economic Development, Paolo Romani, on November 23, 2010 Terna signs the definitive agreement for its strategic partnership with the national transmission company, CrnoGorski Elektroprenosni Sistem AD ("CGES"), and its majority shareholder, the government of Montenegro, for the construction of the electric interconnection between Italy and Montenegro.

Other significant events

- Terna's new Board of Directors (p. 31)
- the Italy-Montenegro submarine cable (pp. 36-37)
- Terna and the projects for an integrated Euro-Mediterranean electric grid (p. 34)
- all the sustainability indexes in which Terna is included (pp. 48-49)

The numbers of 2010

With two-figure increases in all of Terna's economic indicators, 2010 was the best in the last five years. Grid investment, revenue, margins, net income, and dividends recorded significant improvements with respect to the very positive results of 2009.
Particularly significant was the 29.8% increase in investment, which in the short term constituted a contribution with a counter-recessionary effect in support of the economy and employment and in the medium and long term will endow Italy with a more modern, efficient, and secure essential infrastructure.
The Terna Group's most significant numbers for the year ended December 31, 2010 are:
- 1,589.2 million euro of sales
- 1,161.7 million euro of investment
- 613.6 million euro of net income.

The new features of the 2010 Sustainability Report

The 2010 Sustainability Report was prepared according to the "Sustainability Reporting Guidelines & Electric Utilities Sector Supplement (EUSS)" established in 2009 by the GRI - Global Reporting Initiative. In keeping with its task of providing the most information possible clearly and transparently, the 2010 Report makes increased use of boxes to ensure space for greater detail on the main achievements of the year.
The application of the GRI guidelines is A+ level, the highest in terms of the completeness of the information. A table linking the GRI indicators with the 10 principles of the United Nations' Global Compact is also provided.
Another novelty is the beginning of a mode of presenting Terna's data in comparison with external benchmarks. This year we began with the leakage of the gas SF_6 (p. 125) and the hours of training per employee (p. 144), and in both cases Terna's performance was better than the benchmark.

The photographs

Every chapter begins with a photograph by Daniele Tamagni, the young photographer who in June 2010 documented the work of several Terna employees as volunteers in Kami, Bolivia. At the end of 2010, they completed a 37-km electric line at an altitude of 4,000 meters, to whose construction local workers trained by them also contributed.
The Kami project – in which Terna supported its dependents' volunteer work through its partnership with the Italian NGO Coopi – is described on page 163 of this Report. It represented Italy at the European Employee Volunteering Awards, the international award sponsored by the European Commission to celebrate the European Year of Volunteering 2011 and in Italy won the Enterprise Environment Award, an important Italian recognition for companies that have made an innovative contribution in terms of environmental sustainability and social responsibility.
The decision to illustrate the 2010 Sustainability Report with these pictures is a way of sharing a philanthropic project that Terna's people feel strongly about with all our readers and of thanking all the people who devoted themselves to implementing it.

The main sustainability results

During 2010 Terna recorded progress in all areas of corporate social responsibility, in keeping with the provisions of its Code of Ethics and the objectives specified in the 2009 Sustainability Report. For a precise comparison of objectives and results, see the table on page 43. The main achievements and recognitions are reported below.

General aspects

Code of Ethics: in February 2010 the campaign to disseminate the Code of Ethics – which involved all Company employees – came to an end and the philanthropic initiative connected with it, "Vote for your Value" (p. 165), whose first three projects ended in December, began.
Integration of CSR: The significance of and reasons for a sustainability approach in the strategic and managerial choices – of companies in general and Terna in particular – the action programs, and the results achieved were the subject of a series of presentations organized by the Social Responsibility Unit in the Company's 8 regional headquarters and all the central Departments.
Certifications: the integrated quality-environment-safety management system, which includes 100% of Terna's activities, obtained the renewal of its ISO 9001, ISO 14001, and OHSAS 18001 certifications for the three-year period 2011-2013. (p. 40).

Culture of sustainability: Terna's support of the dissemination of the culture of sustainability, which had already led to its joining the Sodalitas Foundation and "Anima per il Sociale nei valori dell'impresa" ("The spirit of social responsibility in corporate values") was strengthened by the Company's membership in the LBG – the London Benchmarking Group, the English organization that is the leader in monitoring the impact of community initiatives (pp. 161-162).
Global 1000 Sustainable Performance Leader 2010: Terna was ranked 44th absolutely, second among Italian companies, and second in the world among utilities in this special classification based on the results of the 1,000 most highly capitalized companies in the world from the social, environmental, and governance points of view.
Website: The interactive version of the 2009 Sustainability Report in the "Sustainability" section of Terna's website (www.terna.it) has been further enhanced by new functions, the most innovative of which consists in the possibility of personalizing the way in which it is read (traditional, by GRI indicator, and by stakeholder).
2009 Sustainability Report: This was the first edition prepared with a dedicated database (SDM - Sustainability Data Manager), which already contains 700 basic indicators. The early publication of the Report enabled the Company to distribute it thoroughly to the stakeholders concerned, together with the Annual Report.
Initiatives in Friuli-Venezia Giulia: Faced with protests by local committees, Terna tried out new forms of listening to and communicating with its stakeholders there (p. 56).

Responsibility for the electricity service

Security of the electricity service system: This was the subject of numerous initiatives in 2010. The Security Plan included 96 million euro of investment to improve the systems entrusted with safeguarding the transmission service.
Monitoring systems: During the year the Company started a process aimed at achieving ISO/IEC 27001:2005 certification for its TIMM database, which also monitors the electricity market data for the AEEG (pp. 62-63).
AEEG targets: The Company attained and exceeded the performance targets for the continuity and quality of the electricity service, which it monitors along with the AEEG (pp. 65-67).
"Pylons of the future": Terna's concern for a more harmonious integration of its pylons with the host environment was embodied in its use of Foster poles on the Casellina-S. Barbara-Tavernuzze line in Tuscany (p. 80).

Other significant aspects

- Terna and smart grids (pp. 63-64)
- Terna at the CIGRE 2010 (p. 64)
- Insula Project: a grid for uniting Italy with its islands (p. 72)
- Online "Terna construction sites for Italy" (p. 73)
- ENTSO-E: coordination among European grid operators (p. 74-75)
- Line inspection by helicopter: the LIDAR project (p. 76)
- A new method for cleaning insulators (p. 77)
- Quickly installed stations (p. 81)

Economic responsibility

Economic impact: In addition to the effects implicit in the service provided to the users of the electricity system, Terna's economic impact can also be measured by the amount of its investing activities (1.16 billion euro in 2010), with the consequent employment creation – the work performed by the employees of its contractors and subcontractors was the equivalent of more than 1,973 full-time employees – and by its procurement expenditure (1.32 billion euro in 2010) (p. 91-94).
Dispatching service: In 2010 Terna further reduced the quantity of resources used in the dispatching service by about 41%. For this reduction Terna obtained the maximum sum (160 million euro) provided for by the special incentive scheme established by the AEEG (pp. 87-88).
"My Terna" portal: With the release of the first set of functions, Terna inaugurated the platform dedicated to the management of relations with its suppliers through a customer-relationship management system (p. 101).

Other significant aspects

- Terna's concern for its shareholders (p. 97)
- Transparency on contract work (p. 100)

Environmental responsibility

Consultations: In 2010, consultations continued with regional and local governments regarding authorization of the works included in the Grid Development Plan (pp. 105-106).

WWF: During the year work was begun to restore the environment and reduce impacts in the WWF's Padule-Orti Bottagone (Livorno province) and Stagni di Focognano (Florence province) oases in Tuscany and Torre Salsa (Agrigento province) oasis in Sicily. In Tuscany the work was finished in the spring of 2011, while it is scheduled to end in Sicily before the summer (p. 114).

LIPU: In the middle of 2010 the monitoring provided for by the Terna-LIPU agreement signed in December 2008 to do a scientific study on the possible interactions between birdlife and the national transmission grid was finished (p. 116).

PCB: After having disposed of equipment containing oil with more than 500 ppm of PCB in 2009 ahead of its legal obligations, Terna exceeded the target set for 2010 and in effect ended its disposal program (p. 133).

CO_2 emissions: Even though it is not subject to the obligations imposed by the Kyoto Protocol or emission trading schemes, Terna implemented numerous measures to contain its emissions of CO_2. In 2010 direct emissions recorded a reduction of 11% with respect to the previous year (p.119).

Grid Development Plan: Although it is indirect, the largest contribution to the fight against climate change comes from the implementation of the Grid Development Plan. Considering the Plan as a whole and its effects in terms of grid efficiency, the change in the production mix, and the connection of renewable-energy plants, the reduction of the system's emissions when the entire Plan has been implemented is estimated to amount to about 9 million tons of CO_2 equivalent (pp. 127-128).

Environmental costs: Terna's commitment to the environment is corroborated by the costs it incurs for environmental reasons, the separate representation of which was introduced with regard to 2009 and repeated in 2010. Investment amounted to more than 51 million euro and operating costs to 9.7 million euro (pp. 133-134).

Other significant aspects

- The integrated planning process (p. 107)
- Agreements with the regional government for the sustainable development of the electric grid in Sicily (p.109)
- Reducing encumbrance: single-pole tubular towers (p. 110)
- Magnetic and electric fields: the legal limits (p. 110)
- The European roller has chosen Terna's nests (p. 117)
- SF_6 leakage: a comparison of transmission companies (p. 125)
- Zero-emission communication (p. 127)
- The priority of wind energy (p. 129)
- The benefits of the single authorization (p. 130)

Social responsibility

Generational turnover: Personnel dynamics in 2010 was again characterized by a very small (1.4%) exit rate because of spontaneous resignations. Most of the employees who leave Terna have attained the requirements for retirement. Terna has developed specific instruments for coping with the generational change that retirements will bring about in the next few years (p. 140). A particularly significant one is the transmission of knowledge and experience organized through internal instructors on the Campus faculty (pp. 143-145).

Training: This has been confirmed as a strong point in promoting human resources. In 2010 there were 49 hours of training per employee, with 96% of the personnel covered, which shows Terna's concern for continuing training. Terna's data in this field greatly exceed the average of the other major Italian companies (p. 140).

Occupational safety: In 2010 there were numerous initiatives for the prevention of on-the-job accidents, which further improved a well-established approach to the subject. As in 2009, there were no fatal accidents and the lost-day rate because of injuries confirmed the reduction trend (p. 155).

Corporate giving: According to the LBG (London Benchmarking Group) classification, in 2010 Terna allocated 1,558,826 euro to community projects, including 808,085 euro of donations and 114,283 of community investment. One of the most significant projects was the electrification of Kami (Bolivia) by several Terna employees who worked as volunteers.

Other significant aspects

- Management of generational turnover (p. 140)
- Recruiting: Terna's faces for tomorrow's colleagues (p. 142)
- Relations with top schools, universities, and research centers (pp. 142-143)
- Work on live wires (p. 145)
- Kami and the energy mission of Terna's volunteers (pp. 163-164)
- "Vote for your Value": the 2010 philanthropic initiative (p. 165)
- The Terna Prize: three years of commitment to contemporary Italian art (p. 166)

Sutainability objectives

The objectives for 2011 (details on p. 43) are in keeping with those previously established. The following should be noted in particular:

- surveys carried out on Terna's reputation
- enhancement of the sustainability section on the corporate website
- establishment of an energy-efficiency plan for Terna's buildings
- termination of the work in WWF oases and start of the new study with the LIPU
- revision of the action plans on SF_6 leakage
- establishment of rules for employee volunteer work and the sale of corporate assets.

Reading approaches for stakeholders

Terna's 2010 Sustainability Report has kept the general lines introduced in the preceding edition, which adopted several suggestions of stakeholder groups involved in critical readings followed by discussion with Terna's Corporate Social Responsibility Unit.

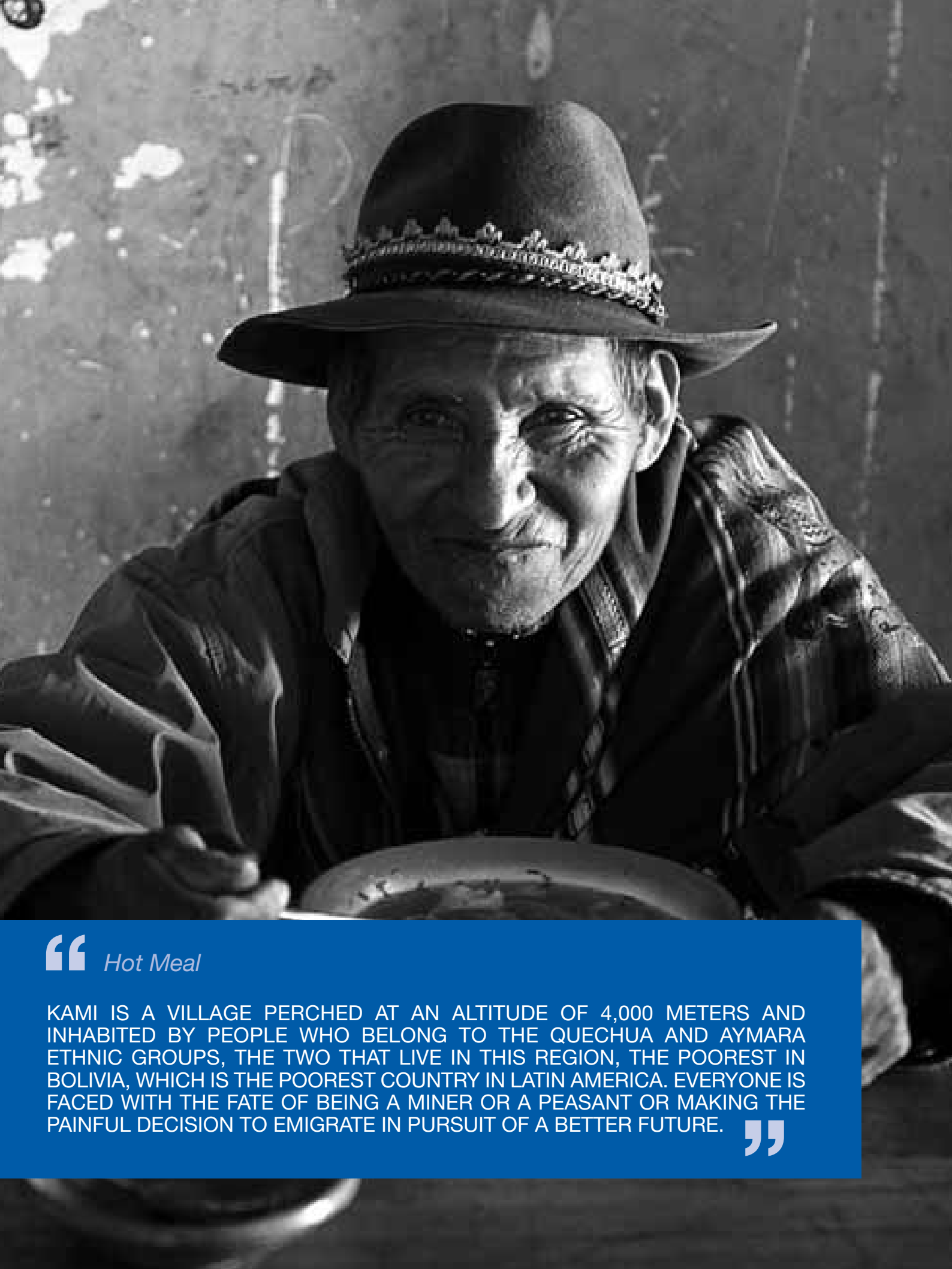
In the Terna Profile an entire chapter is dedicated to stakeholder engagement, which contains a table with their mapping (p. 51), the commitments to them undertaken by the Company, and the monitoring instruments used to check the actual implementation of the commitments.

Again this year the interest of Terna's different stakeholders for the parts of the Report that regard them more directly determined several layout choices, the most important of which concerns the boxes, which are more numerous and detailed than in the past.

In effect, the reading of sections or, in a few cases, entire dedicated chapters with their related boxes, allows readers to create approaches to the Report other than the standard beginning-to-end one. The following list shows the major stakeholders and the pages that regard them more directly:

- Shareholders, financial analysts, and providers of capital: pp. 28, 29, 48, 52, 84-88, 91, 92, 94, 97
- Employees: pp. 40, 41, 50, 52, 77, 90, 91, 120, 125-127, 138-157, 163, 165
- Suppliers: pp. 57, 91-93, 97-99, 100, 152, 154, 159
- Grid users, customers, and business partners: pp. 44, 53, 62-81, 100, 129, 130
- Authorities and regulatory institutions, AEEG: pp. 41, 44, 62-81, 86-88, 105-107, 160
- Institutions and associations: pp. 40, 46, 54, 55, 56, 62, 64, 74, 91, 92, 105-109, 114, 116, 117, 130, 160-166
- Media, opinion groups, and the scientific community: pp. 56, 57, 73, 116, 117
- Society and local communities: pp. 44, 49, 54, 55, 70-73, 76, 77, 80, 81, 104-111, 111-133, 158

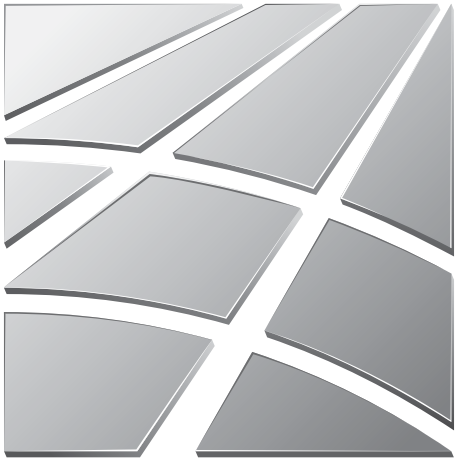

PENTAVALENTE
NUEVAS
VACUNAS
TRIPLE VIRAL



Hot Meal

KAMI IS A VILLAGE PERCHED AT AN ALTITUDE OF 4,000 METERS AND INHABITED BY PEOPLE WHO BELONG TO THE QUECHUA AND AYMARA ETHNIC GROUPS, THE TWO THAT LIVE IN THIS REGION, THE POOREST IN BOLIVIA, WHICH IS THE POOREST COUNTRY IN LATIN AMERICA. EVERYONE IS FACED WITH THE FATE OF BEING A MINER OR A PEASANT OR MAKING THE PAINFUL DECISION TO EMIGRATE IN PURSUIT OF A BETTER FUTURE.

2010



Methodological note

Terna

Methodological note

The Terna Group's Sustainability Report for the year ended December 31, 2010 (hereinafter "2010 Sustainability Report") was prepared according to the Sustainability Reporting Guidelines & Electric Utilities Sector Supplement (EUSS) established in 2009 by the GRI – Global Reporting Initiative.
The Sustainability Report is prepared on the basis of Terna's objectives regarding its sustainability performance and the reporting of the results achieved.
The process of preparing the document included the identification of the significant aspects to report, as well as the improvement of the management and internal verification of the data and other information presented in the Report.
As in previous years, the Report was approved by Terna's Board of Directors and subjected to specific auditing procedures by KPMG, whose assurance report is attached.
The period considered is 2010 and all the data regard the year ended December 31, 2010, while significant events that occurred before the end of April 2011 are also described. The box on page 31 also provides information on the new Board of Directors, which includes the decisions of the Annual General Meeting on May 13, 2011 and those of the subsequent Board meeting regarding the composition of the aforesaid Board and its Committees.

The 2010 Report does not present any innovations with respect to the previous year with regard to the core indicators reported and the A+ application level of the GRI Guidelines. In effect, **in the light of the results presented in the GRI Content Index, we considered that we had achieved an A+ level of application** of the Sustainability Reporting Guidelines & Electric Utility Sector Supplement established in 2009 by the GRI - Global Reporting Initiative.

In comparing this Report to the 2009 one, the following should be noted:
- The change in the 2008 and 2009 numbers in the EN 3, EN 4, and EN 16 indicators. This change is due:
  - with regard to the energy consumption of the corporate vehicle fleet and the corresponding direct emissions of CO_2, to the adoption for 2010 of the new and more precise measurement criteria described in the Report and the related recalculation of the previously published data for 2008 and 2009
  - with regard to the energy consumption of the stations and the corresponding indirect emissions of CO_2, to the retroactive application to 2008 of the estimation criterion adopted in 2009 and used again for 2010.
- The change in the 2009 value-added statement, which was recalculated in accordance with the accounting standards adopted for 2010, as explained in the Consolidated Financial Statements, following the application as from January 1, 2010 of the IFRIC 12, according to which the costs and revenues regarding dispatching investment are recorded as costs and revenues of construction.
- The adoption of the LBG - London Benchmarking Group model in reporting community initiatives, which entails a different quantification of the data on donations and sponsorships in 2010 with respect to previous years.

Finally, in response to the widely recognized need to proceed in the direction of integrated reporting, some of the most important information in this Report on Terna's sustainability performance has also been included in the 2010 Annual Report in accordance with the guidelines of the National Council of Auditors and Accountants (CNDCEC) on sustainability information in obligatory communication ("Report on the management Financial Statements in the light of the innovations introduced by Legislative Decree 32/2007", CNDCEC, January 2009).

The selection of the G3 indicators to include took place on the basis of a careful examination of the informational purpose of each of them and their relevance to Terna's activities and the interests of its stakeholders. In effect, the Report is addressed ideally to all the stakeholders identified in the Company's Code of Ethics.

To help interested readers find quickly the information provided for by the GRI Reporting Guidelines, the present methodological note contains a GRI Content Index, where any limitations regarding single indicators – e.g. partial coverage or data not available for the entire three-year period – are also reported.

The data were calculated precisely on the basis of the entries in the general accounting and Terna's other information systems. In the case of estimates in determining the indicators, the procedure followed is stated.

Structure of the Report

The organization of the Report in chapters has remained the same as in the previous editions. After Terna's profile, the Report maintains the division of the topics in four main sections, corresponding to the triple bottom line – economic, environmental, and social – typical of sustainability reports, preceded by the section on responsibility for the electricity service, which is peculiar to Terna.
In each of the chapters dedicated to the four areas of responsibility, the exposition of the topics is organized in the same way as last year. Each chapter begins with an explanation of the managerial approach to the specific area. This is followed by several thematic sections, which integrate in a single text both the precise information required by the G3 guidelines and the in-depth analysis that Terna considers important to provide. In order to make the Report easier to read, the information regarding the G3 indicators is signaled by the related marker in the margin of the text next to the relevant passages or next to the title if the entire section is considered relevant.
The Report is completed by several tables with additional numerical indicators and a glossary explaining the meaning of technical terms specifically regarding the electricity industry. At the beginning of the "Indicator tables" section there is a table showing all the changes with respect to the additional indicators provided in the 2009 Sustainability Report with the related explanation.

Boundary and Indicators

Except as stated otherwise, the data and other information in the 2010 Sustainability Report regard the boundary including Terna S.p.A. and the companies that were consolidated by the direct method in the Consolidated Financial Statements for the year ended and as of December 31, 2010. In accordance with the GRI Boundary Protocol, the Sustainability Report includes all the companies on which Terna S.p.A. exercises, directly or indirectly, control. There are no relations with joint ventures, subsidiaries, or leased businesses that could significantly influence the boundary or comparability of the data.
Following the sale of its equity interest (amounting to 66% of the share capital) in Terna Participações, the Terna Group has not been present in Brazil since November 2009. **Therefore, all data as of December 31, 2009 and as of December 31, 2010 regard the Group's business activities in Italy.**
All the indicators in the Report are Group indicators. Considering that all the 2008 figures include the Brazilian subsidiaries, to facilitate comparisons the following should be noted:

- With regard to indicators for which the 2008 figure including Brazil is available, notes to the tables point out that in 2008 the Group included business activities in Brazil and states the 2008 figure regarding Italy, if it is readily available, to facilitate comparison of the three-year period with the same boundary.
- With regard to indicators for which the 2008 figure including Brazil is not readily available, notes to the tables point out that the 2008 figure regards only Italy and does not include the Group's business activities in Brazil and the separate figure regarding Brazil is provided – if it is available – in either a note or the body of the text. The notes on the limitations of the GRI Content Index point out the unavailability of the Group figure for 2008.
- With regard to the Group value added – the EC1 indicator – comparison is made possible by special reconciliations.

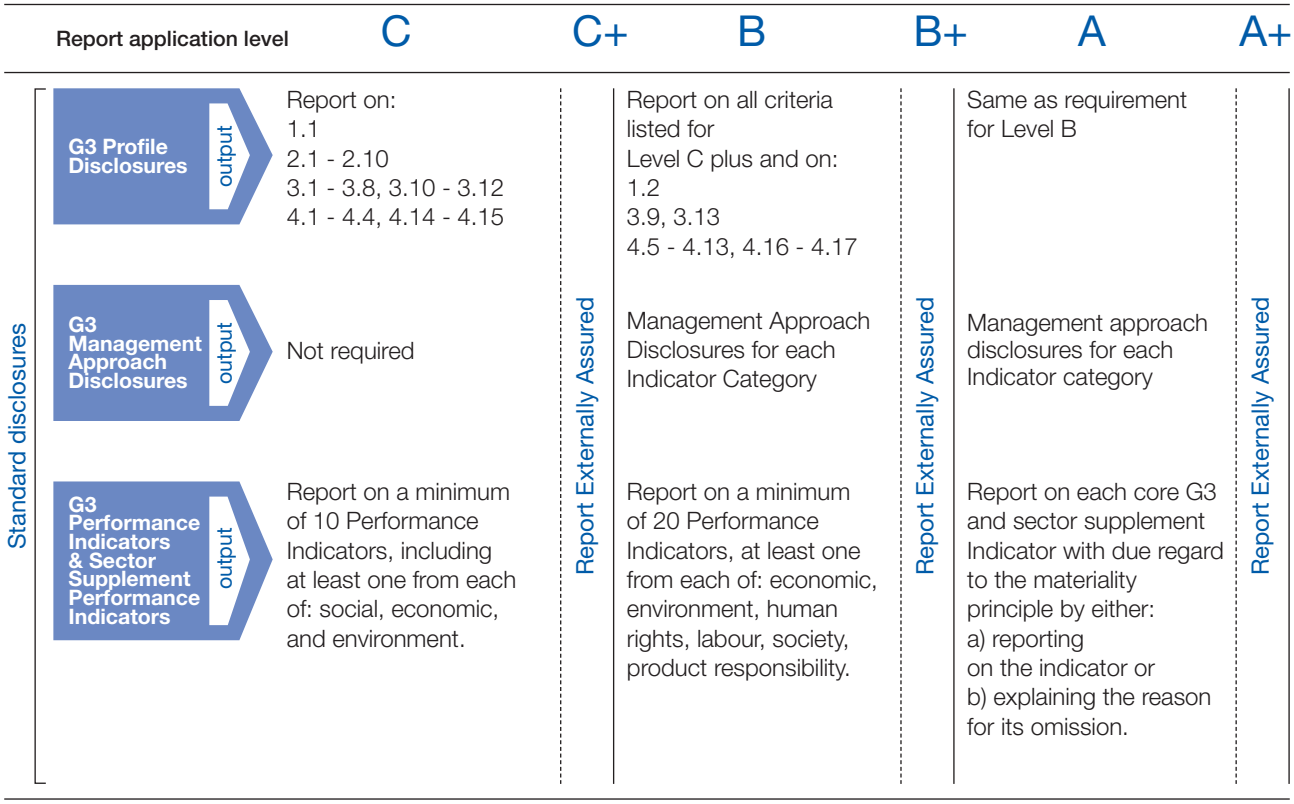
As far as the lack in several cases of the figure for Brazil, it should be noted that the reasons for the limitation to the Italian boundary were connected with the impossibility of collecting the data efficiently or with satisfactory qualitative standards or with the scarce significance of the same. It should also be noted that the information regarding Italy alone was in any case to be considered representative of the Group's situation in 2008, because in that year Terna's business activities in Italy accounted for:

- about 86% of the Group's revenue
- about 94% of the Group's employees
- about 92% of the length of the electric grid owned by the Group.

All the G3 indicators are listed below in the GRI Content Index, which also shows any limitations regarding the requirements of the Reporting Guidelines. The list also includes the core indicators – necessary for applying the Guidelines at the A level – that do not apply to Terna.

For comments, requests, and observations on Terna's performance and how it is accounted for in this Report, write to csr@terna.it, phone Terna (Italy - 06/8313.111) and ask for the CSR unit, or send a letter to:

EXTERNAL RELATIONS AND COMMUNICATION DEPARTMENT
CORPORATE SOCIAL RESPONSIBILITY
Terna S.p.A.
Viale Egidio Galbani, 70
00156 - Rome, Italy



Based on the information presented in the GRI Content Index, the application of the "Sustainability Reporting Guidelines & Electric Utility Sector Supplement" established in 2009 by the GRI - Global Reporting Initiative is considered to have achieved the A+ level.

GRI Content Index

The GRI Content Index is a table of the contents of this Sustainability Report, which enables readers to find indicators quickly and use them to check the Company's performance and compare it with those of other companies that use the same reporting standard.
Each performance indicator has a code regarding the area concerned and the pages of the document where it is found.

		Page
1. Strategy and Analysis		
	1.01	4-5
	1.02	39; 41-43
2. Organizational Profile		
	2.01	28
	2.02	28-29; 93-94
	2.03	28-29;
	2.04	28
	2.05	28
	2.06	29-30
	2.07	28
	2.08	29
	2.09	28-30; 34-37
	2.10	48-49
3. Report Parameters		
	Report profile	
	3.01	Methodological note
	3.02	Methodological note
	3.03	Methodological note
	3.04	Methodological note
	Report scope and boundary	
	3.05	Methodological note
	3.06	Methodological note
	3.07	Methodological note
	3.08	Methodological note
	3.09	Methodological note
	3.10	Methodological note
	3.11	Methodological note
	GRI Content Index	
	3.12	19
	Assurance	
	3.13	Methodological note
4. Governance, commitments, and stakeholder engagement		
	Governance	
	4.01	294-296; 304-306; 312-314 (1)
	4.02	308-309 (1)
	4.03	326 (1); 30
	4.04	323 (1)
	4.05	312-314 (1)
	4.06	319-320 (1)
	4.07	299-300 (1)
	4.08	316-317 (1)
	4.09	16; 40-41
	4.10	308 (1)
	Commitment to external initiatives	
	4.11	110
	4.12	39-40; 46
	4.13	160
	Stakeholder engagement	
	4.14	51
	4.15	50
	4.16	50-57
	4.17	44-45
5. Management approach and performance indicators		
	Economic	84
	Environmental	104
	Labor practices and decent work	138
	Human rights	158
	Society	158
	Product responsibility	62

(1) These are page references of the annual Corporate Governance Report, which is part of Terna's 2010 Annual Report and is available at www.terna.it.

List of G3 performance indicators published

Code	Indicator	Limitation and notes	Page
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and to governments.		91-92; 161-162
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.		88-89
EC3	Coverage of the organization's defined benefit plan obligations.		90-91
EC4	Significant financing received from the government. *Data collection started in 2009.*	Available since 2009.	30; 93
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.		93-94;
EC7	Procedures for local hiring at significant locations of operation and proportion of senior management hired from the local community.		150; 304-306 (2)
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement. *Data collection started in 2009.*	Available since 2009.	105-107; 162; 163-164
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts. *Data collection started in 2009.*	Available since 2009.	93-94
EN1	Materials used by weight or volume. *Data collection started in 2009.*	Available since 2009.	131; 133
EN2	Percentage of materials used that are recycled input materials. *Data collection started in 2009.*	Available since 2009.	131
EN3	Direct energy consumption by primary energy source.		118
EN4	Indirect energy consumption by primary energy source.		118
EN5	Energy saved due to conservation and efficiency improvements. *Data collection started in 2009.*	Available since 2009.	125
EN8	Total water withdrawal by source.		132
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.		112
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.		75; 111-117
EN13	Habitats protected or restored.		114; 115
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.		112-117
EN16	Total direct and indirect greenhouse gas emissions by weight.		119
EN17	Other relevant indirect greenhouse gas emissions by weight.		120
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.		124-126; 127
EN19	Emissions of ozone-depleting substances by weight. *Data collection started in 2009.*	Available since 2009.	121
EN20	NOx, SOx, and other significant air emissions by type and weight. *Terna's activities do not include combustion processes, and thus do not generate significant NOx, and SOx emissions are negligible.*	Not applicable.	
EN21	Total water discharge by quality and destination. *Water is not part of the production cycle of Terna's service*	Not applicable.	
EN22	Total weight of waste by type and disposal method.		132-133
EN23	Total number and volume of significant spills.		105
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.		105-117
EN27	Percentage of products sold and their packaging materials that are reclaimed by category. *The service provided by Terna does not include the activities mentioned in this indicator.*	Not applicable.	
EN28	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations.		45; 105

(2) This are page references of the annual Corporate Governance Report, which is part of Terna' s 2010 Annual Report and is available at www.terna.it.

Code	Indicator	Limitation and notes	Page
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.		118; 119; 125-126
EN30	Total environmental protection expenditures and investments by type. *Data collection started in 2009.*	Available since 2009.	105; 133-134
LA1	Total workforce by employment type, employment contract, and region.		93; 138-140
LA2	Total number and rate of employee turnover by age group, gender, and region.		138-140
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.		146-147
LA4	Percentage of employees covered by collective bargaining agreements.		99; 156
LA5	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.		157
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs.		156
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities by region.		154-155
LA8	Education, training, counselling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.		147
LA9	Health and safety topics covered in formal agreements with trade unions. *Data collection started in 2009.*	Available since 2009.	156
LA10	Average hours of training per year per employee by employee category.		144
LA12	Percentage of employees receiving regular performance and career development reviews. *Data collection started in 2009.*	Available since 2009.	146
LA13	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity.		138-140; 147-150
LA14	Ratio of basic salary of men to women by employee category.		147-150
HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.		158
HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.		97; 99
HR4	Total number of incidents of discrimination and actions taken.		158
HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights.		40; 156; 158
HR6	Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor.		40; 158
HR7	Operations identified as having significant risk for incidents of forced or compulsory labor, and measures taken to contribute to the elimination of forced or compulsory labor.		40; 158
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.		158
SO1	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting.		54-56; 105-111; 158
SO2	Percentage and total number of business units analyzed for risks related to corruption.		159
S03	Percentage of employees trained in organization's anti-corruption policies and procedures.		159
SO4	Actions taken in response to incidents of corruption.		45; 160
SO5	Public policy positions and participation in public policy development and lobbying.		160
SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.		161
SO7	Total number of legal actions for anticompetitive behaviour, anti-trust, and monopoly practices and their outcomes.		45
SO8	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations.		45

Code	Indicator	Limitation and notes	Page
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures. *Given the nature of the service, Terna is not affected by problems of product safety and security with regard to business partners (customers).* *Safety and security impacts of the service are considered with regard to society (as reported in "Electric and magnetic fields: the limits provided for by the law").*	Not applicable.	
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements. *The service provided by Terna does not include the activities mentioned in this indicator.*	Not applicable.	
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship *The service provided by Terna does not include the activities mentioned in this indicator.*	Not applicable.	
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.		65
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.		45

List of G3 performance indicators published in the supplement for the Electric Utility Sector (EUSS)

Code	Indicator	Limitation and notes	Page
EU1	Installed capacity, broken down by primary energy source and by regulatory regime.		34
EU2	Net energy output broken down by primary energy source and by regulatory regime.		34
EU3	Number of residential, industrial, institutional and commercial customer accounts.		100-101
EU4	Length of above and underground transmission and distribution lines by regulatory regime.		29
EU5	Allocation of CO_2 emissions allowances or equivalent, broken down by carbon trading framework. *Terna is not subject to emissions reduction obligations or emissions trading schemes.*	Not applicable.	
EU6	Management approach to ensure short and long-term electricity availability and reliability.		33; 36-37; 38; 63; 64; 72; 75
EU7	Demand-side management programs including residential, commercial, institutional and industrial programs. *Demand-side management programs are not part of Terna's regulatory framework.*	Not applicable.	
EU8	Research and development activity and expenditure aimed at providing reliable electricity and promoting sustainable development.		63-64; 78-81; 129
EU9	Provisions for decommissioning of nuclear power sites. *Terna neither possesses nor manages nuclear power plants and does not operate in the decommissioning field.*	Not applicable.	
EU10	Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime. *Terna's responsibility in terms of demand over the long term is limited to the management of the electrical system, with no implications for energy generation. See "Profile of Terna", "Processes and organization", "Responsibility for the Electricity Service", "Our approach", and "The security of the electrical system".*	Non applicabile.	
EU11	Average generation efficiency of thermal plants by energy source and by regulatory regime. *Terna neither possesses nor manages thermoelectric power plants.*	Non applicabile.	
EU12	Transmission and distribution losses as a percentage of total energy.		120
EU13	Biodiversity of offset habitats compared to the biodiversity of the affected areas.		114-115
EU14	Programs and processes to ensure the availability of a skilled workforce.		141-145
EU15	Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region. *Data collection started in 2009.*	Available since 2009.	140

Code	Indicator	Limitation and notes	Page
EU16	Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors.		99; 152-155
EU17	Days worked by contractor and subcontractor employees involved in construction, operation & maintenance activities.		140
EU18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training.		99
EU19	Stakeholder participation in the decision making process related to energy planning and infrastructure development.		54; 105-107
EU20	Approach to managing the impacts of displacement.		158
EU21	Contingency planning measures, disaster/ emergency management plan and training programs, and recovery/restoration plans.		62-63; 64; 140
EU22	Number of people physically or economically displaced and compensation, broken down by type of project.		158
EU23	Programs, including those in partnership with government, to improve or maintain access to electricity and customer support services.		33; 36-37; 38; 64; 74-75
EU24	Practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity and customer support services. *The service provided by Terna does not include the activities mentioned in this indicator.*	Not applicable.	
EU25	Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases.		45
EU26	Percentage of population not served in licensed distribution or service areas. *Terna does not have relations with end customers of the electrical service.*	Not applicable.	
EU27	Number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime. *Terna does not have relations with final customers of the electrical service.*	Not applicable.	
EU28	Power outage frequency (SAIFI)		65-67
EU29	Average power outage duration (SAIDI).		65-67
EU30	Average plant availability factor by energy source and by regulatory regime. *Terna neither possesses nor manages electrical power plants with significant installed power (see Profile - Photovoltaic box on page 34).*	Not applicable.	

Connection with the Global Compact's 10 Principles

The following table shows the GRI G3 indicators that apply to Terna and are their relationship to each of the 10 Principles of the Global Compact. It aims to facilitate finding information relevant to stakeholders who wish to assess Terna's implementation of the Principles. To find the pages on which the GRI indicators are discussed, see the tables of the Index of the GRI contents.

Area	Global Compact Principle	GRI Indicator
Human rights	**Principle 1** Businesses should support and respect the protection of internationally proclaimed human rights.	LA4, LA6, LA7, LA8 LA9, LA13 LA14, HR1, HR2, HR4, HR5, HR6, HR7, HR9, SO5, PR8.
	Principle 2 Businesses should make sure that they are not complicit in human rights abuses.	HR1, HR2, HR4, HR5, HR6 HR7, HR9, SO5.
Labor	**Principle 3** Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	LA4, LA 5, HR1, HR2, HR5, SO5.
	Principle 4 Businesses should uphold the elimination of all forms of forced and compulsory labour.	HR1, HR2, HR7, SO5.
	Principle 5 Businesses should uphold the effective abolition of child labour.	HR1,HR2, HR6, SO5.
	Principle 6 Businesses should uphold the elimination of discrimination in respect of employment and occupation.	EC7, LA2, LA13, LA14, HR1, HR2, HR4, SO5.
Environment	**Principle 7** Businesses should support a precautionary approach to environmental challenges.	EC2, EN18, EN26, EN30, SO5.
	Principle 8 Businesses should undertake initiatives to promote greater environmental responsibility.	EN1, EN2, EN3, EN4, EN5, EN8, EN11, EN12, EN13, EN14, EN16, EN17, EN18, EN19, EN22, EN23, EN26,EN28, EN29, EN30, SO5.
	Principle 9 Businesses should encourage the development and diffusion of environmentally friendly technologies.	EN2, EN 5, EN 18, EN 26, EN30, SO5.
Corruption	**Principle 10** Businesses should work against corruption in all its forms, including extortion and bribery.	SO2, SO3, SO4, SO5, SO6.

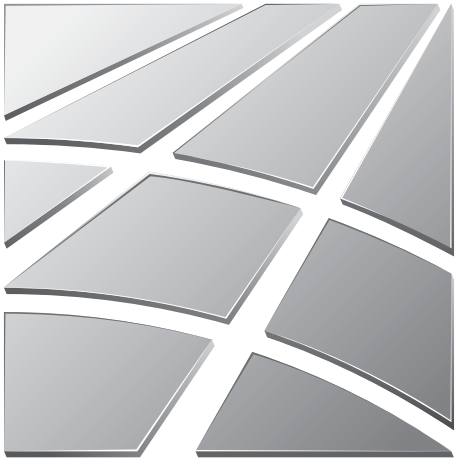
References: GRI-Global Compact, "Making the Connection" (May 2007)


gullosamente Boliviana"
Quee
Cola
2008
FESTIV
DE
EL INCA

Giampiero

GIAMPIERO FANTINI IS A TERNA TECHNICIAN WHO DOES VOLUNTEER WORK IN CHAPARE, A PROVINCE IN CENTRAL BOLIVIA. HE IS ON HIS WAY BACK TO ITALY WHEN, AT THE COCHABAMBA AIRPORT, HE RUNS INTO SOME OTHER ITALIANS, WHO ARE COOPI VOLUNTEERS. THEY TALK ABOUT KAMI, A MISSIONARY, AND HIS IDEA OF RESTORING AN OLD HYDRO POWER PLANT. OF COURSE, THEY'LL ALSO NEED A POWER LINE.

2010



Terna profile

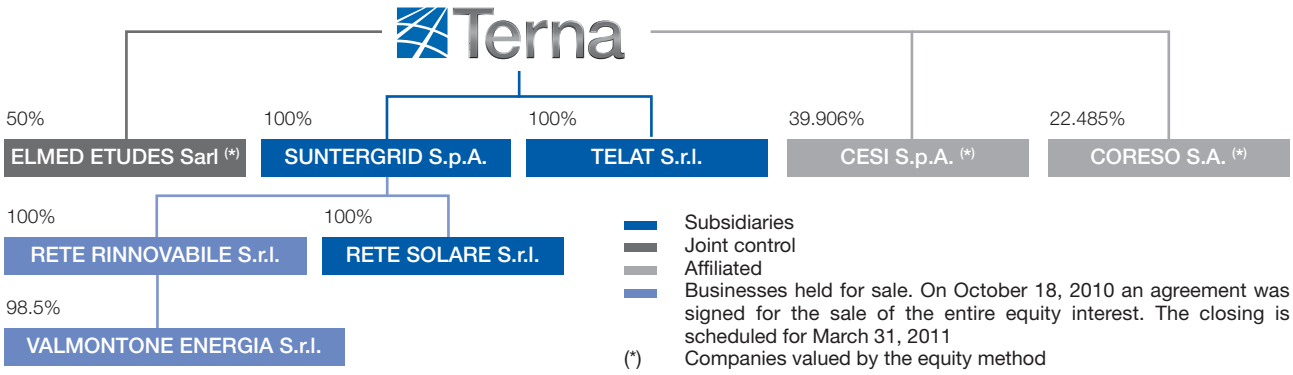
Terna

Presentation of the Company

Terna is the largest independent transmission system operator (TSO) in Europe and the seventh largest in the world in terms of kilometers of lines managed.
The Company's headquarters is in Rome and it is the owner of the Italian National Transmission Grid (NTG), with more than 57,000 kilometers of high-voltage lines (more than 63,000 km of three-phase conductors), 431 transformation stations, and 22 lines interconnecting with foreign grids as of December 31, 2010.
The Company's name comes from the set of three conductors or groups of conductors – in Italian, a *terna* – used to transport each of the three phases of the three-phase electric field in alternating-current grids.
In Italy Terna is the government-licensed transmission system operator, responsible for transmitting and dispatching electric power throughout the country on the high and ultra-high voltage grid. Terna is also responsible for the planning, construction, and maintenance of the grid.

The Terna Group

The structure of Terna's equity interests as of December 31, 2010 was as follows:



As of December 31, 2010, the consolidation boundary of the Terna Group included:
- the directly controlled, 100%-owned Italian subsidiaries SunTergrid S.p.A. (formerly International S.p.A.) and TELAT S.r.l.
- the Italian companies Rete Solare S.r.l and Rete Rinnovabile S.r.l. (RTR S.r.l.), indirectly controlled through SunTergrid S.p.A., which owns 100% of them. Rete Rinnovabile S.r.l. was sold on March 31, 2011 to Terra Firma Investments (GP) 3 Limited for 641 million euro
- the companies valued in the Consolidated Financial Statements by the equity method, in which Terna S.p.A. has an equity interest: CESI S.p.A., an affiliated company (39.91% equity stake) and ELMED ÉTUDES S.a.r.l., a jointly controlled company (50% equity stake).

CESI is the leading company in the market of testing and certifying electro-mechanical equipment and consultancy on electric systems. It covers all the stages of the life cycle of the electric system and offers companies therein (generation, transmission, and distribution), manufacturers of electrical and electronic equipment, large consumers of electricity, and local and national governments a complete range of services aimed at the solution of problems connected with the productive processes of the entire electricity industry.
CORESO is a service company operating under Belgian law, with its headquarters in Brussels, in which Terna acquired an equity interest of 22.485% in November 2010. Shareholders of the company include the TSOs of France (RTE), Belgium (Elia), and Great Britain (National Grid), each with the same percentage of the share capital as Terna, as well as Germany's (50Hertz Transmission), with 10%. CORESO develops daily forecasts and real-time analyses of power flows in Central and Western Europe, identifying potential problems and promptly informing the TSOs concerned. Terna's stake in CORESO constitutes an equity investment in an affiliated company for the Group.
ELMED ÉTUDES is the company to which its joint owners, Terna and the Tunisian electricity company STEG, entrusted the feasibility study regarding the undersea Italy-Tunisia interconnection for the development of the Elmed Project, which

provides for the production of electricity in Tunisia from both conventional and renewable sources and its connection with the Italian electricity market. Production will be awarded through an international competitive procedure to qualified generation companies.
In order to make the best use of its resources and maximize the profitability of its assets, in 2009 Terna instructed its subsidiary SunTergrid to undertake the construction of photovoltaic plants on unused land adjacent to the transformation stations leased from the Parent Company. Absolutely negligible in 2009, the production of electricity actually began only in 2010. The power produced was withdrawn and exploited by GSE S.p.A., according to the dedicated withdrawal mechanism provided for by the Energy Account, thus ensuring Terna's total neutrality with regard to the sale of electricity on the Electricity Market.
In December 2009, SunTergrid incorporated a new company, Rete Rinnovabile S.r.l. (RTR S.r.l.), which took over all the projects for photovoltaic production that became operational in 2010. The corporate structure of the company, which was then sold on March 31, 2011 to Terra Firma Investments (GP) 3 Limited, satisfied both the requirements of functional and accounting separation from the Parent Company and compatibility with Terna S.p.A.'s bylaws and license, as well as with the provisions of Legislative Decree 79/99 (the so-called "Bersani Decree").
In October 2010, Rete Rinnovabile S.r.l. also acquired 98.5% (corresponding to 1,118,106.99 euro) of Valmontone Energia S.r.l. from Troiani & Ciarrocchi S.r.l. and C.I.EL. S.p.A. The purpose of the company acquired by RTR is the design, construction, and management of the network of photovoltaic plants.
In November 2010, Terna signed the definitive agreement for a strategic partnership with CrnoGorski Elektroprenosni Sistem AD ("CGES"), the TSO of Montenegro, and the government of Montenegro, which is its majority shareholder, to construct the new electrical interconnection between Italy and Montenegro. On January 25, 2011, Terna acquired 22% of CGES.
Today's Terna is the result of the liberalization of the electricity industry begun in 1999, when the role of TSO was assigned to GRTN – Gestore della Rete di Trasmissione Nazionale, a government-controlled company. In November 2005, Terna – which already owned almost all of the National Transmission Grid – acquired the role of TSO from the latter, with the related human and material resources, as established by the Prime Minister's Decree of May 11, 2004. The reunification of the ownership of the grid, with the exception of a few segments, and its management coincided with Terna's independence from the Enel Group, of which it had previously been a part. Terna now competes in the market with total strategic and managerial autonomy. It can count on the technical expertise acquired in the past, and thus represents at the same time innovation and tradition, two values that accompany it today in its prospects of development.
For information on the recent changes in the regulatory framework that concern the Company, see the 2010 Annual Report, pages 91-105.

NUMBERS OF THE TERNA GROUP AS OF DECEMBER 31, 2010

Number of employees	3,468
Turnover in millions of euro	1,589
Total capitalization in millions of euro	6,322
km of three-phase conductors (1)	63,578
km of lines (1)	57,638
underground	*1,249*
underwater cable	*1,348*

EU4

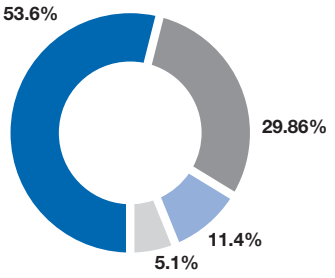
(1) For the km of lines and three-phase conductors broken down by voltage, see the indicator tables on page 172.

Ownership structure

Terna S.p.A. has been listed on the italian stock exchange since June 2004. In March 2011, the share capital amounted to 442,945,054 euro and consisted of 2,009,491,000 ordinary shares with a par value of 0.22 euro each.
As of the same date, Terna's relative-majority shareholder was Cassa Depositi e Prestiti – a corporation in which the Ministry of the Economy and Finance has a 70% equity interest – which owns 29.86% of the share capital.
Ownership of the share capital is 67% Italian, while 33% is held by foreign funds.
After Cassa Depositi e Prestiti, the largest shareholders are:
- Enel S.p.A., which owns 5.1% of the share capital
- Romano Minozzi, who owns 4.4% of the share capital
- Pictet Funds Europe S.A., with 2.8% of the share capital
- BlackRock Inc., which owns 2.2% of the share capital
- Assicurazioni Generali, with 2% of the share capital.

EC4 TERNA'S SHAREHOLDER BASE

- Other institutional investors + retail
- Cassa Depositi e Prestiti
- Other large shareholders
- Enel



Total 100%

No other shareholder owns more than 2% of Terna's share capital, nor does the Company know of any shareholder agreements regarding its shares. On April 19, 2007 Cassa Depositi e Prestiti S.p.A. established that it was in a position of de facto control of Terna S.p.A.
As of March 2011, 14% of the share capital was held by socially responsible investors (SRI).
Following specific regulations regarding government shareholdings in companies involved in the liberalization process, Terna's bylaws establish several restrictions on shareholding and voting rights. As with other companies involved in the liberalization process, the Ministry of the Economy and Finance, in agreement with the Ministry of Economic Development, is entitled to oppose the acquisition by persons not under public control of more than 5% of the share capital. Furthermore, in order to safeguard Terna's independence and impartiality, when the Board of Directors is elected, no company in the electricity industry may exercise voting rights representing more than 5% of the share capital.

Corporate Governance

Terna's governance structure is based on the traditional accounting and control model and is in keeping with the provisions of Italian legislation regarding listed companies. Terna also observes the Self-regulation Code of listed companies published by Borsa Italiana in March 2006 and in 2007 the Company approved and implemented adjustments in its corporate governance system in order to fulfill the commitments provided for by the Code.
Therefore the Company's corporate governance system is in line with the principles contained in the Self-regulation Code – which can be consulted online at www.borsaitaliana.it – the relevant regulations formulated by the CONSOB, and in general the best practices found at the international level.
This corporate governance model aims to create value for our shareholders, while reflecting awareness of the social significance of the Group's activities and the necessity of appropriately considering all the interests involved when carrying them out.
The task of managing the Company is entrusted to the Board of Directors, which is elected by a shareholders' meeting. The Board of Directors is responsible for establishing strategic and organizational guidelines for the Company and the Group, as well as ensuring that the controls necessary for monitoring the performance of the Company and its subsidiaries are in place.
The Board in office as of December 31, 2010 was elected on April 28, 2008 and consisted of nine members.

BOARD OF DIRECTORS (IN OFFICE SINCE APRIL 28, 2008)

Office	Members	Executive	Non-executive	Independent	Internal Control Committee	Compensation Committee	Committee on Transactions with Related Parties
Chairman	Luigi Roth		●			●	
Chief Executive	Flavio Cattaneo	●					
Director	Cristiano Cannarsa		●				
Director	Paolo Dal Pino		●	●	●	●	●
Director	Matteo del Fante		●		●		
Director	Claudio Machetti		●				
Director	Salvatore Machì		●	●	●	●	●
Director	Michele Polo		●	●	●		●
Director	Vittorio Rispoli		●	●		●	

Further information on Terna's corporate governance can be found in the "Corporate Governance Report", which was approved by the Board of Directors on March 31, 2011 and is available on the Company's institutional website (www.terna.it) in the Investor Relations section, accessible from the homepage.

Terna's new Board of Directors

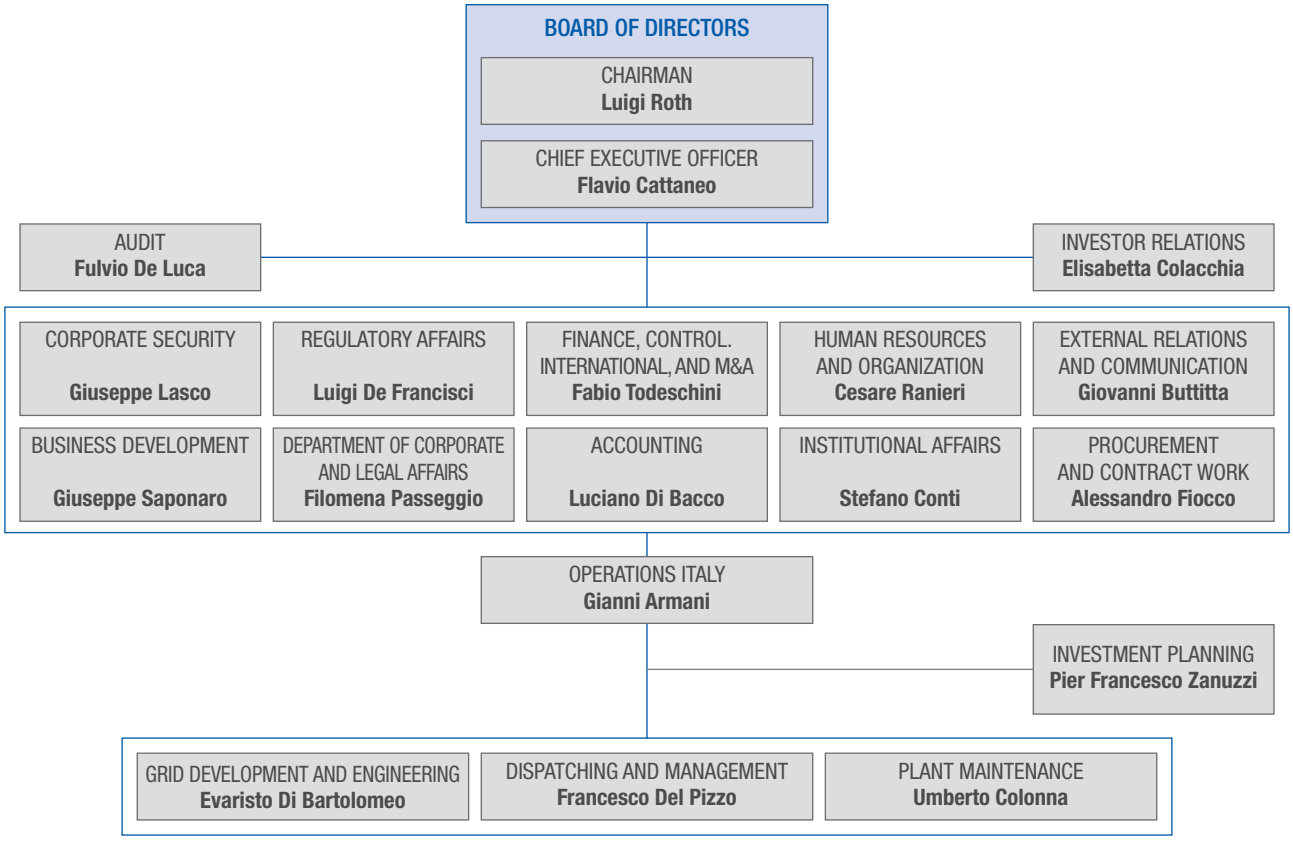
At their meeting on May 13, 2011, Terna's shareholders elected the new Board of Directors, consisting of Luigi Roth, Flavio Cattaneo, Andrea Camporese, Paolo Dal Pino, Matteo Del Fante, Michele Polo, Romano Minozzi, Fabio Buscarini, and Salvatore Machì. The meeting subsequently elected Luigi Roth as Chairman of the Company.
The new Board of Directors, whose term expires when the 2013 Financial Statements are approved, confirmed Flavio Cattaneo as the Company's Chief Executive Officer.
Paolo Dal Pino, Michele Polo, Salvatore Machì, Romano Minozzi, and Fabio Buscarini have declared that they possess the requisites of independence established for directors by the law – including the provisions of the Unified Finance Law – the bylaws of Terna S.p.A., and Borsa Italiana's Self-regulation Code of listed companies. The Board of Directors then appointed the new members of its Internal Control Committee, Compensation Committee, and Committee on Transactions with Related Parties, all of which consist of non-executive Directors.
In accordance with the provisions of the Self-regulation Code of listed companies, all the members of the Compensation Committee and the Committee on Transactions with Related Parties are independent, while a majority of those of the Internal Control Committee are independent pursuant to the same provisions.
The professional profiles of the new Directors, as well as the slates that designated them, are available on the Company's website at www.terna.it.

BOARD OF DIRECTORS (IN OFFICE SINCE MAY 13, 2011)

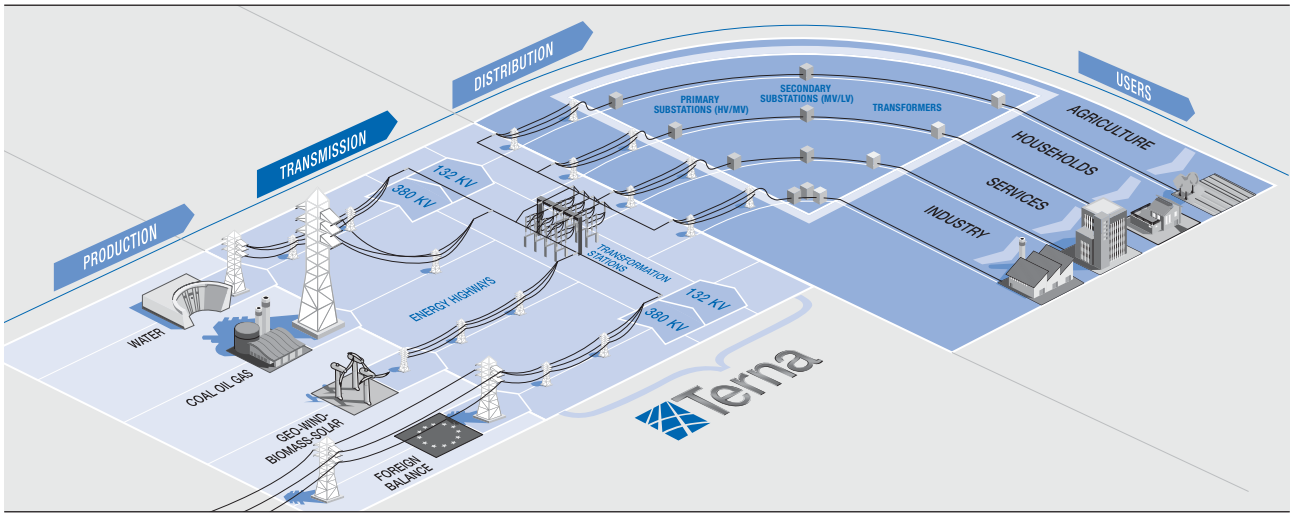
Office	Members	Executive	Non-executive	Independent	Internal Control Committee	Compensation Committee	Committee on Transactions with Related Parties
Chairman	Luigi Roth		●				
Chief Executive	Flavio Cattaneo	●					
Director	Fabio Buscarini		●	●			
Director	Andrea Camporese		●				
Director	Paolo Dal Pino		●	●	●	●	●
Director	Matteo Del Fante		●		●		
Director	Salvatore Machì		●	●		●	●
Director	Romano Minozzi		●	●		●	●
Director	Michele Polo		●	●	●		

Processes and organization

At the top of Terna's organizational structure (as of March 31, 2011) are the Chairman and the Chief Executive Officer, with 11 Departments, Investor Relations, and Audit reporting to the latter.



The Italian electricity system consists of four components: the production, transmission, distribution, and sale of electric power. **Terna's business regards the transmission of electric power on the high-voltage grid.** In particular, the Company manages the electricity system, operating the grid and striving for the utmost efficiency of the infrastructure and excellence in its maintenance through plant engineering and management and development of the grid.
These core activities are carried out by the Operations Italy Department, with the contribution of the non-operating departments.



The main stages of the transmission service are the following.

Operation

Operation of the grid **requires at all times a balance between injections and withdrawals**, i.e. between the supply of domestic and imported power and the power consumed by end users. This function is called dispatching.
Preparation for real-time operation includes **planning unavailability** (of the grid and production plants) with different time horizons, a forecast of the national electricity requirements, a comparison to see if it is consistent with the production plan determined by the outcome of the free power market (Electricity Exchange and off-Exchange contracts), the acquisition of resources for dispatching, and a check of the power transits for all the lines of the transmission grid.
In the **real-time control stage**, the National Control Center coordinates other centers throughout Italy, monitors the electricity system, and performs the task of dispatching, intervening if there are deviations – because of the malfunctioning of production plants or grid segments or because of requirements that diverge from those forecast – from the estimated balance by instructing producers and the Remote-control Centers in order to modulate the supply and the situation on the grid. In emergencies, it may also act to reduce demand in order to avoid the risk of grid degeneration and extensive disconnections.

Grid development planning

The analysis of electric power flows on the grid and the development of projections of demand enable Terna to **identify the critical aspects of the grid and the new works that have to be constructed** in order to ensure the system's adequacy with respect to the satisfaction of requirements, the security of operation, congestion reduction, and the improvement of service quality and continuity.
The new works to be constructed are included in the National Transmission Grid Development Plan, which is presented every year for approval to the Ministry of Economic Development. Terna then follows the authorization process, from advance consultation with local governments all the way to the authorization to construct the work.
Finally, by analyzing the situation of the grid, Terna identifies the **best ways of connecting to the grid** the plants of all the companies that so request.

Construction

Terna establishes the engineering standards of the plants, in particular the construction standards and the performances required of the equipment, machinery, and components of stations and electrical lines. As far as plant construction is concerned, **Terna prepares projects for the works authorized**. In particular, it establishes the requirements of external resources and the budget for the projects, as well as the work methods and the technical specifications of the components and materials that will be used in constructing the new lines or stations, including the adoption of innovative methods. The construction of new plants is normally outsourced.

Maintenance

Terna sees to the **maintenance of its electrical lines and stations** through eight Transmission Operating Areas, which employ most (slightly less than 70%) of the Company's human resources.

Other activities

Terna's business relations with other parties in the industry – regarding both the transport of power from producers to distributors and trading on the Electricity Exchange – entail economic transactions whose settlement is handled by the Company. The Security Department is entrusted with establishing policies regarding the analysis, management, and control of corporate risks, the protection of the Company's physical, human, and asset resources, and the occupational safety and health of its workers. The Department also handles relations with the judiciary and the police and assists the other corporate departments that may have critical problems.

Unregulated activities

EU6
EU23

As a complement to the activities it carries out in concession, Terna develops unregulated activities (see also in this regard the section entitled "The Strategic Plan" on page 85). The updating of the concession on December 15, 2010 confirmed the total compatibility of these activities with the transmission service and expanded Terna's corporate purpose to include, among other things, the construction and management of plants for accumulating and converting electric power, as well as the design, construction, and temporary management of infrastructure and plants for producing electric power (for a concise presentation of the Concession updating, see the 2010 Annual Report, page 95).
During 2010, Terna's most important engagement in the unregulated field in Italy was its development of photovoltaic activities, on which see the following box.

EU1
EU2

Terna's photovoltaic project

Focomorto photovoltaic plant near Ferrara

As far as its unregulated activities are concerned, exploiting the land adjacent to its electric stations through the construction of small photovoltaic generation plants was the challenge of the year for Terna.
Implemented through Rete Rinnovabile S.r.l. (RTR S.r.l.), a company that was incorporated in December 2009 and was 100% controlled by Terna S.p.A. through its sub-holding company SunTergrid, the project was completed in 10 months, during which 62 photovoltaic plants were constructed in 11 regions. The plants have a total capacity of 143.7 MWp, of which 101.6 MWp will benefit from the rates regarding the 2010 Energy Account and the remaining 42.1 MWp from those of the first four-month period of 2011.
The total power of RTR's photovoltaic plants corresponds to about 10% of Italy's photovoltaic production and when fully operational will allow 135,000 tons of CO_2 emissions a year – the emissions of about 50,000 cars – to be avoided.
In keeping with the project's business plan, in October 2010 Terna announced the agreement for the transfer of 100% of Rete Rinnovabile S.r.l.'s share capital to the private equity fund Terra Firma Investments (GP) 3 Limited. The closing took place at the end of March 2011 with a total payment of 641 million euro and a net profit of about 204 million euro, of which 147 million euro regard consolidated net income for the year 2010.
According to this agreement, in addition to the rental of the land, Terna will provide RTR with services for the maintenance, surveillance, and monitoring of the plants and at the end of the single rental contracts will regain possession of the areas.
The sale of Rete Rinnovabile constitutes the third merger & acquisition transaction in two years, with further creation of value for Italy, the electricity system, and our shareholders.

Development abroad

With regard to its international development activities, **Terna has focused on the strategic areas located around the Mediterranean**, in particular on some of the Balkan countries – with which the Italian government has signed and is implementing intergovernmental agreements for cooperation and development in the field of electric power and renewable energy sources – and North Africa.
The purpose of the Company's expansion of its activities in strategic areas is to increase its ability to import through investment in new interconnections with neighboring countries, with benefits in terms of the increased security of the Italian electricity system and the diversification of the sources of electricity procurement from abroad and the consequent increase of competition on the Italian electricity market and reduction of the price of electricity.
The new underwater electric power line between Italy and Montenegro – which is part of Terna's Development Plan – is under construction and is the most significant electrical interconnection project for linking Italy with the Balkan area.
Terna does not have any investment activities in North Africa as of now, but only development ones.

The Balkans

Southeastern Europe is strategically important for the Italian electricity system. The region currently has the most attractive nearby power market because of the forecast medium- and long-term power surplus at competitive production costs and the diversification of supply sources, thanks to its unused potential of renewable energy, in particular hydro.
If supported by specific intergovernmental agreements with these countries, the opportunities for developing production from renewable sources will contribute to achieving Italy's EU targets for the reduction of CO_2 emissions. In effect, Italy's obligation to produce 17% of its electricity from renewable sources by 2020, provided for by The European Commission for the development of renewable energy, can be fulfilled by importing renewable energy produced in countries outside the European Union.

Montenegro is the Balkan country in which Terna is carrying out investment and development activities. In effect, in the Balkan area this country is of primary importance for the electrical connection thanks to its geographical location and the availability of a transmission grid in good condition and well connected with the future generation hubs of the area – Bosnia-Herzegovina, Serbia, Kosovo, Albania, and, via Serbia, Bulgaria and Romania – features that, together with its unused energy potential and a significant energy surplus at lower costs than Italian ones in the medium-to-long term, make it ideal for the role of an electricity-trading platform between Italy and Southeastern Europe.
In the Balkan area **Terna is already operating in Albania, with the construction of the 400-kV Tirana-Elbasan line**, which was completed in December 2010, and the 110- and 220-kV infrastructure, which it plans to complete by the end of 2011. The total value of the contract amounts to about 13 million euro, to which Terna is contributing 2.5 million euro, financed by the Italian Foreign Ministry through Italy's Development Cooperation.
In Croatia, Terna completed – in cooperation with the Croatian TSO HEP-OPS – **the feasibility study regarding the new underwater electrical interconnection system with Italy.**
Finally, Terna is present in the Balkan area with two job orders for technical assistance:

- in **Serbia**, for the energy regulatory authority AERS, with an 18-month contract in partnership with the Spanish consultancy Mercados and the Dutch consultancy Kema, financed by the European Commission
- in **Kosovo**, for the TSO, KOSTT, focused on the operation of the electricity system and aspects of the international regulation of the electricity market, with a 24-month contract – recently extended for 22 more months – in partnership with the Scottish company IPA, financed by the European Commission.

In 2009 the Company successfully concluded its provision of technical assistance to the Ukrainian Ministry of Energy, as well as to the Albanian distribution company KESH and the Albanian TSO, OST, and in 2010 to the Turkish TSO, TEIAS.

EU6
EU23

The underwater cable interconnection between Italy and Montenegro

On November 23, 2010 Terna signed binding agreements with the Montenegrin TSO, CrnoGorski Elektroprenosni Sistem AD ("CGES"), and the government of Montenegro for the construction of the underwater electric interconnection between Italy and Montenegro and the industrial partnership between Terna and CGES, which was sanctioned by Terna's acquisition of a 22% equity interest in CGES.
The agreements were signed against the background of the intergovernmental ones between Italy and Montenegro, which began at the end of 2007.
The project for the new underwater electric line between Italy and Montenegro is being implemented and is part of Terna's Development Plan for the NTG, which has been approved by the Ministry of Economic Development.

The project provides for a complex series of works, as follows:

1. The 1,000-MW underwater Italy-Montenegro Interconnection between the branch points of Villanova and Tivat/Kotor, constructed entirely by Terna as an integral part of the Italian grid, and thus as a regulated investment. In Italy. The authorization process was begun on December 3, 2009, while in Montenegro an inter-ministerial committee was instituted that is working on the inclusion of the project in the the detailed national regulatory plan, which is scheduled to be published in June 2011. The work is expected to be commissioned by the end of April 2015.

THE NUMBERS OF THE INFRASTRUCTURE

415	KM THE TOTAL LENGTH OF THE INTERCONNECTION, INCLUDING:
390	KM OF UNDERWATER CABLE WITH ALTERNATING CURRENT AND ZERO ENVIRONMENTAL IMPACT
25	KM OF UNDERGROUND LAND CONNECTIONS (15 KM IN ITALY, 10 KM IN MONTENEGRO)
2	CONVERSION STATIONS (DIRECT CURRENT/ALTERNATING CURRENT)
1,000	MW THE INTERCONNECTION'S MAXIMUM TRANSPORT CAPACITY, WHICH CAN BE INCREASED
775	MILLION EURO OF INVESTMENT

2. Infrastructure to bolster and renovate Montenegro's grid. An investment program to bolster the Montenegrin transmission grid will be implemented by the local TSO, CGES, with the objective of ensuring the functioning and optimal use of the new interconnection, among other things in consideration of the opportunity to import electric power in Italy from all the countries of the Balkan area.
The investment of CGES in infrastructure for connecting to the existing transmission grid and bolstering it amounts to about 100 million euro.

3. Interconnections with the bordering countries. The agreements provide for the construction of new interconnections of Montenegro with the bordering countries. The investment will be made by a private consortium with Terna as the majority partner or, in the event this is not economically feasible, by the TSOs involved as a public investment.
4. Equity interest in CGES. To protect its investment in the underwater electrical interconnection after the signing of the definitive agreements, Terna acquired a 22.09% equity interest in the Montenegrin TSO, CGES, by subscribing a reserved capital increase.

The project has significant benefits for the Montenegrin electricity system, which can be summarized as follows:
- creation of the most favorable conditions for attracting further investment in generation that could use the country's considerable energy resources, particularly its potential in hydro and other renewable sources
- implementation of the plan for bolstering the transmission grid in the coastal area – which is already included in the project – and the consequent increase in the operating security of the national system and the reliability of the supply for consumers in the area
- significant economic development and growth of Montenegro's GDP
- creation of new jobs, as well as new opportunities for local enterprises
- transformation of Montenegro into an exporter of electric power
- direct electrical connection of Montenegro with the EU energy market
- support for the creation of a Balkan regional electricity market with its hub in Montenegro
- accreditation of Montenegro as a reliable country for significant infrastructure development.

North Africa

Terna does not currently have any investment activities in North Africa, but only development ones.
As in the Euro-Mediterranean area, in developing projects for connection with North African countries Terna considers protection of the environment a priority and favors projects for producing electricity from renewable sources that increase the security of investments by safeguarding their risk profile.
This development strategy is implemented by integrating the Euro-Mediterranean electrical grid to exploit the availability of renewable energy sources located on the southern shore of the Mediterranean and connect them with the outlet markets. This approach takes the form of implementation of pilot projects and **participation in international cooperation initiatives such as MedGrid and Desertec** and in projects of the European Commission like "Paving the Way for the Mediterranean Solar Plan".
The main projects in North Africa in which Terna is participating are:
- **Elmed project.** This is an integrated project for the production and transmission of electric power based on intergovernmental agreements and a partnership between Terna and Steg – Tunisia's national electricity company – which provides for the exportation to Italy of electric power from both renewable and conventional sources, whose production will be assigned to qualified companies through an international competitive procedure.
- **Italy-Algeria Interconnection.** Terna and Sonelgaz – Algeria's national electricity company – signed an agreement for a feasibility study regarding the electrical interconnection of Italy and Algeria, with the objective of beginning the authorization process in 2012.
- **Paving the Way for the Mediterranean Solar Plan.** This is a project promoted by the European Commission regarding technical assistance for implementing the Mediterranean Solar Plan, which a consortium of Terna, RTE (France), Sonelgaz (Algeria), MVV Decon (Germany), and ENEA was awarded in 2010. Terna's contribution is focused on the assessment of the power transmission systems in the countries concerned and the formulation of proposals for the development of the trading of electricity produced from renewable sources.

EU6
EU23

Terna and projects for an integrated Euro-Mediterranean power grid

A strategic geographical position, a transmission grid that is already highly interconnected with the other European grids and able to support the efficient development of trading, and a transparent and reliable electricity market make Terna the main reference point for the TSOs on the southern shore of the Mediterranean.
With these credentials, Terna is participating in the two most important European industrial initiatives for the development of projects for production from renewable sources on the southern shore of the Mediterranean and its transportation from the South to the North: Desertec and MedGrid. In September 2010, Terna acquired an equity interest in Desertec Industrial Initiative (DII), a Munich-based company operating under German law, which is promoting a Euro-Mediterranean cooperation project to:

- produce electric power mainly from thermodynamic-solar and wind plants in the Sahara Desert and the Middle East
- supply Europe and the producer countries with electric power from renewable sources through electrical interconnections
- provide the producer countries with instruments for sustainable development, such as technologies for desalinating water.

Desertec has more than 50 participants, including leading companies in the European electricity industry, such as E.On and RWE (Germany), Enel Green Power (Italy), and Red Electrica d'España, as well as industrial companies like Siemens and ABB.
The consortium's objective is to create by the end of 2012 the conditions for completing the entire project in 2050 through the development of a technical, economic, political, and regulatory framework that allows:

- investment in production from renewable sources and in grid interconnections in North Africa and the Middle East
- the implementation of pilot projects for testing the overall feasibility of the industrial initiative
- the development of a long-term (to 2050) master plan, including the investment plan.

MedGrid, instead, is a joint venture whose purpose is the creation of a Euro-Mediterranean electrical grid for trading the electric power produced from renewable sources among the countries of the MENA (Middle East and North Africa) area and its transportation to Europe. Among the participants are large European companies like EdF, RTE, Red Electrica d'España, and GdF Suez, as well as industrial companies like Siemens and Areva and electricity companies on the southern shore of the Mediterranean, such as the Moroccan utility ONE. Among the objectives of Medgrid are the preparation of a master plan up to 2020 for the development of the Euro-Mediterranean grid in cooperation with the countries of the MENA area, the assessment of the benefits produced by investment in grid infrastructure, the development of projects for cooperation among companies in the Mediterranean area, and the promotion of technologies for constructing underwater electrical connections.

The northern frontier

On the northern frontier the most important development project is the one regarding interconnection with France. **The 1,000-MW interconnection with France will connect the branch points of Piossasco, in Turin province, and Grand'Ile, France** by direct-current land cable that will be completely underground or integrated in the infrastructure of expressway A32, which passes through the Frejus tunnel. With its long tunnels and viaducts and its extremely limited environmental impact, this technological project is unparalleled in the world. Authorized by the Italian authorities in March 2011, the line will be 190 kilometers long – about half of which will be in Italy – and will use the expressway and the new Frejus service tunnel. The benefits for the Italian electricity system consist in an increase in its ability to import lost-cost power and in the security and diversification of its supply sources.

Sustainability

Terna's concerns

Terna has a crucial and invaluable role in the Italian electricity system. The largest economic and social impact of its corporate business is determined by its ability to provide society with a reliable and efficient electricity service. Dedication to the service is therefore also the main reference of the Company's approach to the issues of sustainability, including the particularly significant ones of respect for the environment and local communities, occupational safety, and personnel training. In general, as sanctioned in its Code of Ethics, Terna's aim is to construct and develop relations with its stakeholders based on trust in order to create value for the Company, society, and the environment.
Terna's core business is the provision of a service that is indispensable for the functioning of the entire electricity system and for supplying everyone in Italy with electric power. Although the end users of the electricity service are not direct customers of Terna, but rather of companies that distribute and sell electricity, the essential role it performs in the electricity system makes the Company **ethically responsible for the service to the entire country**. Terna therefore is very conscious of the responsibility entrusted to it by the government concession and makes the latter's objectives its own, i.e. to:

- provide a secure, reliable, continuous, and cost-effective service
- keep the transmission system efficient and develop it
- observe the principles of impartiality and neutrality in order to ensure equal treatment for all grid users.

Terna's activities intrinsically produce a heavy impact on the environment and local communities, because electric infrastructure has a tangible, visible presence embodied in the large pylons of lines. Therefore, the **reduction of the impact of lines** is another major objective. The Company considers **respect for the environment and local communities** a rule of conduct that can trigger a virtuous circle. It allows natural and cultural heritages to be preserved, while facilitating the acceptance and construction of new infrastructure, thus generating economic benefits for shareholders and society as a whole, which benefits from a more efficient and less costly service. The Company's concern for communities is also expressed through initiatives with social, humanitarian, and cultural value as a concrete sign of participation in the civil growth of society.
The role of human resources in Terna's activities is crucial. The **renewal of technical expertise** that is distinctive and often rare or unique in the electricity industry constitutes an essential element of Terna's approach to sustainability. Another, equally important element is concern for **occupational safety**, which is made even more acute by the fact many operating activities are characterized by particular risks, such as working many meters above the ground and performing maintenance tasks on energized lines.
Further details on the significant aspects for Terna from the point of view of sustainability can be found in the first sections of the four chapters on service, economic, environmental, and social responsibility in this Report.

Governance of sustainability

The Code of Ethics

The Code of Ethics was approved by the Board of Directors on December 21, 2006. The result of internal reflection that involved the top and first-line management, it is the highest reference for identifying the sustainability issues that are significant for Terna and establishing internal policies and guidelines. It is a concrete guide in making everyday decisions and aligning them with the objective of constituting and consolidating a relationship with stakeholders based on trust.
The Code is divided into five sections, which describe:

- general ethical principles (legality, honesty, and responsibility) and those particularly significant for Terna's business (good management, respect, fairness, and transparency)
- the conduct required, specifically from employees, with regard to the general issues of loyalty to the Company, conflicts of interest, and the safeguard of corporate assets
- the main guidelines on the conduct of relations with stakeholders
- Terna's commitments to ensuring observance of the Code
- the rules for implementing the Code and the persons responsible.

One of the commitments expressed in the Code is to provide evidence in the Sustainability Report of the implementation of the Company's environmental and social policy, as well as a comparison of the objectives with the results achieved.
At the beginning of 2010, Terna completed a Company-wide campaign to disseminate the Code of Ethics and its contents, which had been started in 2009 in concurrence with the installation of the Ethics Committee, a body available to anyone, both within and without Terna, who wishes to obtain explanations and make reports regarding issues discussed in the Code of Ethics.
The Code of Ethics is available in the Corporate Governance area of the Investor Relations section of Terna's institutional website.

HR5
HR6
HR7

The Global Compact

When it became a member of the Global Compact network of the United Nations at the end of 2009, Terna further consolidated its commitment to the observance of the Global Compact's 10 principles on human rights, labor, the environment, and the prevention of corruption. These principles were already referred to in the Code of Ethics as a benchmark for the Company's initiatives regarding sustainability and corporate social responsibility.
During the 2010 Global Compact Leaders Summit in New York in 2010, Terna participated in the preparation of the Yearbook 2009, a selection of the good practices of the Italian companies and organizations that adhere to the Global Compact in implementing the ten principles promoted by the initiative and in general in supporting the Millennial Development Goals. Terna's contribution regarded its commitment in support of the tenth principle: the prevention of corruption.

Management policies and systems

The principles and criteria of conduct expressed by the Code of Ethics have been translated into corporate policies and management systems in keeping with them, in particular:

The integrated Quality-Environment-Occupational Safety management system

The activities in the sensitive areas of the environment and occupational safety, which are crucial in Terna's view of sustainability, are coordinated and guided by its **ISO 9001, ISO 14001, and OHSAS 18001**-certifed integrated Quality-Environment-Occupational Safety management system. Its satisfaction of the certification requirements shows Terna's continual pursuit of improvement, which ensures consistency with the commitments expressed in the Code of Ethics and in the Company's policies. **The integrated system covers 100% of Terna's activities**, both those carried out on existing infrastructure and those regarding the planning, design, and construction of new plants. Following inspections performed by the IMQ certification body on the Quality-Environment-Occupational Safety management systems, on October 19, 2010 Terna's UNI EN ISO 9001:2008, UNI EN ISO 14001:2004, and BS OHSAS 18001:2007 certifications were renewed for the three-year period 2011-2013, with the consequent issue of the new certificates.

231 Organizational Model (pursuant to Legislative Decree 231/2001)

In 2002, Terna's Board of Directors resolved to adopt the Organizational and Management Model to comply with the provisions of Legislative Decree n. 231 of June 8, 2001, which introduced into Italian law a regime of administrative – but de facto criminal – liability of companies for several kinds of crimes committed by directors, executives, or other employees in the interest or to the benefit of the company. In particular, the law was intended to fight corruption. The possibility for a company to be exempted from liability depends on specific actions, including:

- having adopted and implemented – before the deed was committed – an organizational and management model in keeping with Legislative Decree 231 and appropriate for preventing crimes of the kind that was committed
- having entrusted the functioning, observance, and updating of the Model to an internal Supervisory Body endowed with autonomous powers of initiative and control regarding the application of the Model.

Terna's adoption of the 231 Organizational and Management Model is thus aimed at ensuring "conditions of fairness and transparency in the conduct of the Company's business" and activities so as to safeguard its position and image, as well as the expectations of its stakeholders, in keeping with the provisions of Legislative Decree n. 231 of June 8, 2001. The Model has subsequently undergone a number of revisions to adapt it to the provisions of the law and the inclusion of additional crimes in Decree 231.
The Model currently consists of 10 parts, a general one and 9 special ones (A, B, C, D, E, F, G, H, and I), the last of which was included in 2010. In particular, following the going into effect of Law n. 94 of July 15, 2009, and Law n. 116 of August 3, 2009, Terna S.p.A. adapted its Organizational and Management Model by introducing Special Part I, which regards organized crime, and updating the General Part, as well as Special Parts A, B, G, and H.
Specifically, the 10 special parts of the Model regard the following:
A - crimes in relations with the civil service and the judiciary
B - corporate crimes
C - terrorism
D - crimes against individuals
E - market abuse
F - recycling money
G - manslaughter and serious/very serious bodily injury
H - IT crimes, illegal data processing, copyright violation
I - organized crime.
In March 2011, the Corporate Security Department published and distributed to all employees a manual for the personnel entitled "Legislative Decree n. 231 of June 8, 2001 – A Model for Organizing and Managing the Procedures" to further support the provision of information and training on the subject (on training, see page 159).
Further information on Terna's organizational Model is available at www.terna.it in the Corporate Governance Area of the Investor Relations section.

The Balanced Scorecard and incentive schemes

In monitoring and auditing corporate activities, the Company avails itself of a Balanced Scorecard (BSC) system, a panel of indicators that allow it to follow quarterly the progress made with respect to the operating objectives into which – according to the economic/financial, organizational/processes, strategic/customers, and innovation/development quadrants – the annual objectives of the Strategic Plan are divided. Particularly significant from the point of view of sharing Terna's sustainable approach to business is the **inclusion in its BSC system of sustainability objectives**, such as increased energy efficiency. Thanks to the link between the Balanced Scorecard and variable-pay schemes for managers (MBO), the sustainability objectives are also supported by the incentive systems based on pay.

Internal organization

Particularly important from the point of view of sustainability are:

- the presence of a corporate Security and Safety Department entrusted with, among other things, risk management and the safeguard of the Company's physical, human, and financial resources, as well as occupational safety. The Department comprises the Fraud Management unit, whose objective is to safeguard the Company's assets (material and human resources, direct and indirect benefits) in the face of illegal events that could compromise them by activity aimed at preventing and managing corporate fraud. This activity takes the form of constantly monitoring processes, checking reports of illegal activities, implementing protocols of understanding with prefectures and the finance police, and assessing and monitoring compliance risk.
- the presence of the Corporate Social Responsibility unit of the External Relations and Communication Department, which – in cooperation with all the corporate departments and referring to the best practices – contributes to the establishment of the Company's objectives regarding ethical, social, and environmental sustainability, as well as the governance of sustainability and the communication of the objectives and results of corporate social responsibility. The unit also constantly monitors the risks connected with aspects of sustainability that entail potential negative repercussions on the Company's reputation and intangible value through the analysis of the ratings of the leading agencies – such as SAM (Sustainable Asset Management), Vigeo, and Eiris – which periodically prepare sustainability assessments.
- the institution in 2009 of a Sustainability and Environmental Steering Committee, whose members are the heads of the departments that share the responsibility of implementing sustainability projects and monitoring their impacts
- the use since 2009 of SDM (Sustainability Data Manager), dedicated software for the management of the sustainability information system, which currently collects more than 1,500 indicators linked with textual information, data, conversion factors, and formulas for monitoring Terna's environmental and social performances
- the presentation to the Board of Directors, when it approves the Sustainability Report, of sustainability objectives and results.

Sustainability objectives and results

In 2010 there was significant progress in all the areas of responsibility. Particularly noteworthy are the following **results**, presented in the same order as in the table, which correspond to the objectives established for 2010, as reported in the preceding Sustainability Report.

- The meaning of and reasons for a sustainability approach in the strategic and management choices – of companies in general and Terna in particular – the action programs, and the results achieved were the subject of a series of presentations made by Corporate Social Responsibility unit for the Company's 8 regional offices and all the central departments. This initiative was aimed at raising the awareness of employees, beginning with the management, on the integration of the sustainability principles in conduct, as well as in business decisions. The same presentation has become part of the process of integrating all newly hired employees.
- The external communication of sustainability issues benefitted from the reduced production time of the 2009 Sustainability Report and the enhancement of the content of the Sustainability section of corporate website. The innovations include a version of the Sustainability Report that can be surfed and also offers viewers pathways differentiated by stakeholder, and the creation of a section dedicated to electro-magnetic fields, which for technical reasons will be put online in the first half of 2011. The purpose of the latter is to furnish – in a language that is accessible to everyone – the basic information for understanding the phenomenon and its relations with the human organism. References to specialized websites enable the viewer to easily find more in-depth technical and scientific information.
- The presentation of the Sustainability Report was addressed to selected groups of university students and ones working on a master's degree in sustainability.
- The central position of the responsibility for the electricity service was confirmed by the good result obtained regarding the targets set by the AEEG for 2010, with the consequent increase in revenue, in particular with respect to the reduction in the dispatching resources procured on the Electricity Exchange, which had positive repercussions on the system costs and the bills of end users (see the section entitled "Revenue structure and regulatory framework").

- In the environmental field, Terna accelerated the program for disposing of oils containing PCBs in concentrations of between 50 and 500 ppm, which by the end of 2010 had been practically eliminated (see the box “Disposal of equipment containing oils with PCBs”). The lines of the subsidiary TELAT – acquired in 2009 – were geo-referenced, which allowed Terna to complete its survey of the interferences between the transmission grid and protected natural areas (see the section “Lines in protected areas”.). Leakage of SF_6 decreased and the containment plan underwent a revision, which in 2011 should establish the long-term target and the related actions.
- Work continued on the enhancement of the 3 wildlife reserves specified in the Terna-WWF agreement. With the work already finished in the two Tuscan reserves, only the Torre Salsa reserve in Sicily remains to be completed in 2011.
- With regard to safety, the accidents involving contractor employees were recorded.
- By choosing the values they prefer among those on which the Code of Ethics is based, the employees were involved in the allocation of philanthropic contributions to support associations that are working to defend the same values (see the box “Vote your value - the 2010 charitable initiative”).

The **objectives for 2011** constitute further steps long the same paths. The table below provides a summary of them, of which the following should be noted in particular:
- a survey of Terna’s reputation among its stakeholders
- revision of the sustainability section of the corporate website
- preparation of an energy-efficiency plan for Terna’s buildings
- a plan for extending the performance-assessment system to include an increasing number of employees
- adoption of rules to foster employee volunteering and guide the donation of corporate property for charitable causes.

The process of providing a framework for CSR activities will continue, with particular regard to the establishment of plans and objectives that are consistent with the Strategic Plan and their inclusion in the system of corporate objectives.

Area of responsibility	2010 objectives	2010 results		2011 objectives
Governance and general aspects	Presentation of the Sustainability Report to all Departments	Presentations made to all Departments and the 8 Local Areas (p. 52)	•••	Surveys on Terna's reputation
	More meetings for presentation and discussion with stakeholders	2 meetings, as in 2009	••	Revision of the Sustainability section of the website
	More content in the Sustainability section of the website (in particular on electro-magnetic fields)	Increased content on biodiversity (initiatives with the WWF); site on electro-magnetic fields created	•••	
	2009 Sustainability Report available on website by mid-June	Sustainability Report published on website on May 26	•••	2010 Sustainability Report online by mid-June
Responsibility for the electricity service	Achievement of continuity indicator targets	Achievement of targets (pp. 66-67)	•••	Achievement of continuity indicator targets
	Security Plan on schedule	Security Plan on schedule (pp. 65-67)	•••	Security Plan on schedule
	Positive result on AEEG incentives	Positive result on AEEG incentives	•••	Positive result on AEEG incentives
Economic responsibility	Corporate profitability	Corporate profitability (1)	•••	Corporate profitability
	Investment to develop grid	Investment to develop grid (1)	•••	Investment to develop grid
	Containment of transmission costs	Containment of transmission costs (1)	•••	Development of unregulated activities (photovoltaic)
Environmental responsibility	Progress on project to contain SF_6 leakage	SF_6 leakage down (p. 119); revision of program (p.124)	••	Revision of action plans on SF_6 leakage
	New survey of lines in protected areas (including TELAT lines)	Survey completed (p. 112)	•••	Preparation of energy-efficiency plan for Terna's buildings
	Acceleration of program to reduce oils with PCBs between 50 and 500 ppm	Program accelerated and PCBs practically eliminated (p. 133)	•••	Increased neutralization of CO_2 emissions
	Complete work in reserves included in project with WWF	Work completed in 2 out of 3 reserves	••	Completion of work included in agreement with WWF
Social responsibility	Improved recording of accidents of contractor and subcontractor employees	Recording done (pp. 154-155)	•••	Plan for extending performance-assessment system
	Establishment of policies and rules for employee volunteer work	Objective postponed to 2011	•	Establishment of rules for employee volunteer work and donations of corporate property
	Charitable/giving initiatives in accordance with employee preferences ("Vote your value" project)	Project implemented (p. 165)	•••	Initiatives in partnership with non-profit organizations

Legend

••• Objective achieved
•• Partly achieved
• Postponed or suspended

(1) A result achieved corresponds to a performance in line with the objectives approved by the Board of Directors for the Strategic Plan presented annually to financial analysts (see page 85).

Disputes and litigation

Opposition to the construction of new lines

Terna considers respect for the environment and local communities to be an integral part of planning the grid and makes every effort to proceed in agreement with local institutions. However, projects for constructing new infrastructure entail adverse reactions manifesting the NIMBY (not in my backyard) syndrome. In these cases, Terna's stance is one of willingness to seek alternative solutions, even ones that are technically more complex than those originally planned, provided they are compatible with the requirements of security, efficiency, and cost-effectiveness of the electricity service. The pursuit of agreed on solutions requires difficult negotiations and a lot of time. The outcomes are usually positive, but some local opposition may persist during the process and receive media attention, as in the following cases in 2010 and the first few months of 2011.

- **"Dolo-Camin":** The line was authorized in April 2011 by the Ministry of Economic Development in accordance with the Ministry of the Environment (MATT). In 2010, opposition to the project was expressed by Saonara, a municipality in Padua province, as well as several municipalities along the Brenta River (Vigonovo, Camponogara, Dolo, Fossò, Stra), which want the stretch of line that concerns their respective territories to be buried. The Cat (Committee for the Environment and Local Communities) also protested strongly in favor of a project that would put the line underground. So far, three petitions have been lodged with the Regional Administrative Court (TAR).
- **"Trasversale Veneto":** The line is in the consultation stage. There are many problems with the local communities, in particular with an environmental association in the municipality of Paese. The local governments involved (Treviso and Venice Provinces) are in favor of the line. The committees opposing the project are asking that the entire 380-kV line – which is about 33 km long – be buried.
- **"Redipuglia-Udine Ovest":** The line has been in the authorization stage since December 2008. On July 24, 2009 an inspection was performed with the national EIA technical committee. It is expected that the Ministry of Cultural Assets and Activities (MiBAC) will soon sign the compatibility decree. In 2009 and throughout 2010 there was strong opposition – led by the Committee for the Defense of Rural Friuli – to the project, which provides for the construction of the work as an overhead line. Last summer the controversy was also directed against the campaign that Terna launched in Friuli to inform the people in the communities affected by the project and raise their awareness of the issues (see the box on p. 56).
- **"Sorgente-Rizziconi":** The work is under construction. After the authorization decree was issued on July 8, 2020 by the Ministry of Economic Development, people in the municipality of Serro (hamlet of Villafranca Tirrena) carried out protest actions, requesting that the overhead segment "Sorgente-Villafranca", which passes through Serro, be buried or one of its pylons shifted. This is in spite of the fact that the route of the line is the result of more than 2 years of technical and environmental investigations, which led – in agreement with the Region of Sicily, the Province of Messina, the Municipality of Villafranca, and the other 12 provincial Municipalities concerned – to the definition of an overhead route that combined in the best possible way protection of the environmental, society, and health in full compliance with the limits provided for by the law. The route is the result of a long process of consultation and discussion, beginning in 2004, during which Terna participated in more than 100 meetings with the local governments and other institutions involved to identify the best solutions for the safeguard of the areas concerned.
  In November 2010 the Municipality of Serro decided to petition the TAR to annul the single authorization issued by the Ministry of Economic Development.
- **"Italy-Montenegro":** The authorization process was begun in December 2009 and is still in progress. The Service Conference held in Rome on November 26, 2010 – with more than 20 parties among ministries and local governments and other institutions – unanimously expressed a favorable opinion. Beginning in March 2010, a protest arose in Pescara against the route of the line. In keeping with the practice it has adopted of discussing from the beginning the routes of its works with the local communities involved, Terna changed the route to meet the expectations of the municipality of Pescara. The Company also paid 5 million euro of compensation in Pescara and 7 million euro in Cepagatti. The result of long discussions with the respective local governments, after which a special protocol was signed, these compensations have nothing to do with those provided for by Law 239/04 regarding power generation plants. Nonetheless, local politically-inspired protests persist.

Preliminary inquiries of the Electricity and Gas Authority

The following two inquiries of potential concern to Terna should be noted.

Service dysfunctions in Sicily in June 2007

Still pending is a fact-finding investigation on the service dysfunctions that occurred in Sicily on June 25 and 26, 2007, which the Authority initiated with its resolution n. 155/2007. Specifically, on June 26, 2007 Terna took anti-blackout measures to avoid loss of control of the system and prevent more critical situations from arising. The electricity distributors consequently carried out planned rotating disconnections of ordinary users. The measure was made necessary by a series of concomitant factors: very high consumption, widespread fires that entailed shutting down several lines to allow them to be extinguished, breakdowns, and failures.

Preliminary inquiry on unassigned power

With its resolution VIS 16/11 of February 7, 2011, the AEEG ended its inquiry (VIS 171/09), begun in 2009, on the issue of unassigned electric power by imposing a 420,000 euro administrative fine on Terna. The inquiry followed the fact-finding investigation, begun in 2007, regarding anomalies noted in the determination of the lots of electricity withdrawn from the grid and not correctly assigned to dispatching users. With the imposition of the penalty, the AEEG criticized Terna's conduct for lack of diligence in performing several activities of the transmission and dispatching services for which it is responsible. The AEEG also acknowledged Terna's proactive conduct in mitigating the negative effects of the improper behavior of other companies providing the electricity service and took the same into account in quantifying the penalty.

Environmental litigation

Environmental litigation originates from the installation and operation of electrical plants and mainly regards the damage that could ensue from exposure to the electric and magnetic fields generated by power lines. In effect, the Parent Company and its subsidiary TELAT are defendants in a number of civil and administrative proceedings, in which the plaintiffs request that lines be moved or operated in a different way on the basis of alleged harmfulness of the same, even though they were installed in full compliance with the relevant current regulations (Law n. 36 of February 22, 2001 and the Prime Minister's Decree of July 8, 2003). Only in a very small number of cases have damages been requested for harm to health caused by electro-magnetic fields.

With regard to the decisions that have been handed down, only in sporadic proceedings have rulings been unfavorable to the Parent Company. In any case, the latter have been appealed, with the decisions still pending, but negative outcomes are considered improbable.

Litigation regarding concessionary activities

As the licensee of the transmission and dispatching services, since November 1, 2005 the Parent Company has been the defendant in several proceedings mainly contesting measures of the AEEG and/or the Ministry of Economic Development and/or Terna itself and regarding these services. Only in the cases in which – in addition to flaws in the contested regulations – the plaintiffs also complain of Terna's alleged violation of the rules established by the aforesaid authorities has the Company appeared before the court. With regard to this litigation, although the rulings in some proceedings of first and/or second instance annulled the AEEG resolutions and Terna's consequent measures, negative outcomes for the Company are considered improbable, because these are normally pass-through items, as confirmed by the external lawyers who are assisting Terna in this litigation. As the licensee of the transmission and dispatching services, the Company adopts actions and measures in compliance with the industry Authority's resolutions, which occasionally are contested, although – in certain conditions – the related financial expenses may be paid by the aforesaid Authority.

Other litigation

Several proceedings are pending regarding the environment and city-planning in connection with the construction and operation of several transmission lines. A negative outcome in these cases could generate unpredictable effects and thus they are not included in the determination of the "Provision for litigation and sundry risks".

For a small number of proceedings we cannot at the present time absolutely exclude unfavorable outcomes, whose consequences – in addition to the payment of damages – could consist in, among other things, the expenses connected with modifying lines or the temporary unavailability of the same. In any case, negative outcomes would not compromise the operation of the lines.

Taking into account also the opinion of the Company's external lawyers, an examination of the aforesaid litigation leads to the conclusion that negative outcomes are highly unlikely.

Penalties

In the period 2008-2010:

- There were no definitive criminal convictions or plea bargaining for injuries to third parties caused by Terna assets. The same holds for the subsidiary Terna Participações during the period in which Terna exercised control. EU25
- As of December 31, 2010 there was no pending litigation nor had any legal proceedings ended regarding corruption, unfair competition, anti-trust, or monopolistic practices. With regard to these same matters, no definitive administrative or judicial, monetary or non-monetary fines were recorded for non-observance of laws or regulations, including environmental ones, that imposed on Terna an obligation to "do/not do" (e.g., prohibitions) or convicted its employees for crimes. The same holds for the subsidiary Terna Participações during the period in which Terna exercised control. S04 S07 S08

In the three-year period 2008-2010 no significant penalties were recorded regarding the supply of the service, the environment, or in general observance of the provisions of the law. EN28 PR9

Promotion of Corporate Social Responsibility

LBG - The London Benchmarking Group - Corporate Citizenship

In 2010 Terna joined the LBG (the London Benchmarking Group), an English organization which, with the operating coordination of Corporate Citizenship, brings together more than 100 companies around the issues of social responsibility, with particular concern for the impacts of corporate community investment (CCI), for which it developed a measurement method.
Terna intends to share its strategic-planning and classification approach for its corporate giving. For the latter, see the section "Community initiatives" on pages 161-162.

Sodalitas

Terna is one of the companies that, in January 2008, created the Foundation for the Development of Entrepreneurship. The Foundation continues the commitment manifested by the Sodalitas Association for the dissemination of social responsibility and the promotion of dialogue between business and the world of non-profit organizations. The Foundation's significance and its commitment to the development of corporate social responsibility in Italy are recognized by the most important entrepreneurial, institutional, social, and cultural reference figures in the country and it can count on the contribution of 79 supporting companies, which generate an economic value amounting to 25% of Italy's GDP, and 95 volunteer managers. Terna's presence in this important network testifies to the engagement recognized the Company with regard to sustainability and represents a commitment to do even better in this direction.
In April 2010, Terna participated in the first "Sodalitas Day", an event promoted by the Foundation to present the sustainable approach of the leading Italian companies through the "Corporate commitment for a sustainable future" conference and the presentation of the results of the survey "The prospects of Social Responsibility in Italy" carried out by Eurisko. As part of the event, Terna presented its initiatives to safeguard biodiversity.
In 2011, "The European Year of Volunteering", the Foundation chaired – on behalf of the European Commission and Business in the Community, the reference English organization for corporate sustainability – the jury that selected the Italian candidates for the European Employee Volunteering Awards. For the "large company" category it chose the Kami project, which several Terna employee volunteers implemented in Bolivia. For the details, see the box on pages 163-164.

Anima per il sociale nei valori dell'impresa

In 2010 Terna joined *Anima per il sociale nei valori d'impresa*, ("Soul for society in business values"), a non-profit association founded in 2001 and promoted by the Unione degli industriali e delle imprese di Roma – a Rome association of enterprises – which brings together managers and companies that want to disseminate in their community a new entrepreneurial culture that is able to combine profit with the creation of welfare for the community.
Anima facilitates the encounter between companies and social engagement through initiatives and activities addressed to local communities, focusing on creating a network among institutions, enterprises, and the service sector, as well as on its role as a cultural mediator, helping enterprises understand and promote CSR through projects and initiatives with high value added. In this regard, Terna participated in a conference promoted by *Anima* and Confindustria Lazio on "Corporate codes of ethics: experiences and new trends" at the University of Rome "La Sapienza" on February 26, 2010.

CSR Manager Network Italia

Through the professional contribution of its own managers, Terna supports the activity of the CSR Manager Network Italia, the reference point for professionals, consultants, and university researchers whose work regards sustainability and corporate social responsibility.
The Network offers its members the possibility of comparing their experiences, identifying elements of innovation, learning about the best practices in Italy and abroad, having at their disposal an organization that represents them in the world of public institutions and associations, including non-profit ones, and can participate in discussions at the national and international levels.

Sixth Social Responsibility Show "From Saying to Doing" (Milan, September 28-29, 2010)

Terna participated in the meeting by promoting – in the International Year of Biodiversity – a seminar on "Biodiversity and electrical lines: the possibility of coexistence". The seminar presented the results of a McKinsey study on the increasingly distinctive role of the issue of biodiversity in corporate environmental policies and those of Terna's "Nests on pylons" project, carried out in cooperation with Ornis italica, in terms of its contribution to the repopulation of several species at risk and its enrichment of the scientific community's knowledge. Representatives of McKinsey and the Bocconi University, as well as biologists and researchers, participated in the Terna-coordinated seminar.

Other activities

The dissemination of the culture of sustainability and its own experiences was the objective of Terna's participation in a course on CSR, promoted by KPMG, at the Rome European University (Rome, January 2010) and the initiative called "Ideas at San Vigilio 2010. Energy and the Environment: the future is today" (San Vigilio, July 27, 2010), as well as the

professional-training seminar “Energy and the Environment: bringing journalists and press agents up to date”, which was held with the scientific cooperation of the AEEG (Trento, October 22-23, 2010).
At the Sixth Politeia CSR Forum, Terna and other companies discussed the subject of responsible investors as promoters of social responsibility (Milan, February 2010), while at the Sixth CSR Show “From Saying to Doing”, it took part in the round table “Communicating CSR: enterprises, agencies and consumers discuss”.

Sustainability indexes

The continual improvement of its ESG – environmental, social, and governance – performances earned Terna a constant increase in its sustainability ratings, inclusion in the main international sustainability indexes, and the recognition of socially responsible investors.

Index	Year included	Characteristics of the indexes
FTSE4Good - Global - Europe	2005	The FTSE indexes include the best companies in terms of sustainability performance on the basis of the analyses of the EIRIS agency.
AXIA - Ethical - CSR	2006	The Axia indexes include the best practices regarding sustainability among the most highly capitalized companies in the FTSE Mib, Eurostoxx50 (Ethical), and Eurostoxx60 (CSR).
ECPI - Ethical Global - Ethical Euro - Ethical EMU	2007	These indexes were designed to be used by customers for investment analysis, benchmarking, and performance measurement based on the analyses of the ECPI agency
MSCI - Global Sustainability - Europe Sustainability	2007	These indexes continue the KLD Indexes, which were among the first to trace the non-financial performances of companies and still constitute one of the most highly regarded references in the United States.
ASPI Eurozone	2009	Beginning with the 600 most highly capitalized European companies, the index selects the 120 leaders in terms of sustainability according to the Vigeo rating agency.
Ethibel - Excellence - Sustainability (ESI) Europe	2009	The indexes are developed on the basis of the ratings provided by the Vigeo agency. Inclusion is subject to the positive opinion of the Ethibel Forum, a panel of independent experts in the different aspects of sustainability.
Dow Jones Sustainability - World - Europe	2009 2010	The DJS indexes select from the baskets concerned (for the World Index the 2,500 largest companies in the world and for the Europe Index the 600 most highly capitalized companies) the companies with the best ESG performance according to the rankings of the SAM (Sustainable Asset Management) agency.
FTSE ECPI - Italia SRI Benchmark - Italia SRI Leaders	2010	Introduced in 2010 and based on the analyses of the ECPI firm, these are the only sustainability indexes that include only companies listed on Borsa Italiana, the Italian stock exchange.

Awards

SAM 2011 Silver Class

In virtue of the score obtained in the 2010 analysis, the rating agency SAM (Sustainable Asset Management) included Terna – as the only transmission operator and the only Italian company – in the Silver Class of Electric Utilities (SAM, Sustainability Yearbook 2010).

Oekom Prime Status

In 2010 the German sustainability agency Oekom assessed Terna for the first time and included it immediately in the Prime Status class, which signals an excellent sustainability performance to socially responsible investors.

Carbon Disclosure Project

Even though it is not subject to obligations to reduce emissions nor to any kind of emissions trading scheme, Terna regularly publishes the data on its CO_2 emissions and reports them every year to the Carbon Disclosure Project, an international initiative supported in 2010 by 534 investors who manage 64,000 billion dollars, whose purpose is to ensure transparency regarding the emissions generated by companies and the containment programs they implement.
Among the 60 largest Italian companies, in 2010 Terna was first among the utilities and absolute second for its transparency in communication on its carbon footprint and was one of the 6 companies included in the Carbon Disclosure Leadership Index.

Global 1000 Sustainable Performance Leader 2010

Terna placed 44th in the Global 1000 Sustainable Performance Leader 2010, the special ranking based on the social, environmental, and governance results obtained by the 1,000 most highly capitalized companies in the world.
With this result Terna is in second place among both Italian companies and utilities worldwide. The indicators considered are those of the G3 version of the GRI - Global Reporting Initiative, the most widely used standard in the world in sustainability reporting.

Fifth Enterprise Environment Award

With the electrification project carried out by several Terna employees in Kami (Bolivia) in March 2011, Terna won the fifth "Premio Impresa Ambiente" in the "best cooperation for sustainable development" category. The Award is an initiative of the Camera di Commercio Industria Artigianato e Agricoltura of Rome and is sponsored by the UNIDO - United Nations Industrial Development Organization. It also represents the Italian selection for the European Business Awards for the Environment, which were instituted by the General Directorate for the Environment of the European Commission to promote the organizations that have contributed the sustainable development. For detailed information on the Kami project, see the box on pages 163-164.

Medium-term prospects

Projected onto a medium-to-long-term horizon, the issues of sustainability intersect with Terna's development strategies mainly in the aspects of relations with local communities and environmental impact. In the next few years, a major generational turnover will also keep the issue of core competence management topical, along with those of the quality and security of the electricity service, which are always top priorities.
Overall, even taking into account the development of the foreign activities that can be foreseen at present, there do not seem to be any challenges arising that are not already considered in the current approach to social responsibility activities. To keep pace with medium-to-long-term developments, however, a gradual improvement of instruments and processes will be necessary.

Local communities

In the medium and long term, the creation of value for shareholders and the quality of the electricity service are linked to the development of the grid and of interconnection relations with other countries.
As far as the grid is concerned, the following aspects are crucial:

- **acceleration of authorization processes.** In Italy, it can takes up to four times as long to obtain authorization for new power lines as it does to actually construct the work, with evident consequences of a financial nature, as well as on the efficiency of the NTG. Terna has chosen the path of dialogue and discussion with local institutions in the conviction that the identification of solutions that are agreed on and respectful of communities facilitates the issue of authorizations, in part because of the trust generated over time by the consistency of the Company's conduct. In the next few years, therefore, it will be important to optimize the process to make it more effective (with regard to relations with local institutions) and more efficient (in terms of shortening the time the process itself takes);
- **acceptance by local communities.** Apart from relations with institutions, increasing the level of acceptance of electrical infrastructure by the communities involved is an extremely important objective, as can also be seen in the disputes described in the present Report. Terna has begun to think of the most effective ways to present its development projects. With regard to these objectives, an important role is played by communication and the involvement of – in addition to the institutions – associations representing society at the local level.

The environment, climate, and renewable energy sources

Among the topical issues to which Terna pays close attention are electro-magnetic fields, climate change, and the development of the production of electricity from renewable sources.
With regard to electro-magnetic fields, Terna's commitment takes the form first of all of scrupulous observance of the provisions of Italian law, which are among the strictest in the world. Considering the sensitivity of public opinion on this subject, Terna pays **constant attention to developments in scientific research on electro-magnetic fields** in order to assess possible risks connected with its activities. Furthermore, it will continue to contribute to properly informing public opinion on the subject.
Climate change and greenhouse-gas emissions constitute one of the most significant problems at the planetary level. Terna is not subject to obligations of emission reduction or emission trading schemes, nor does it see particular risks connected with climate change for its income statement, on which see the section entitled "Risk management" on pages 88-89. Nevertheless, both as a sign of its sensitivity to environmental issues and as a response to the growing concern in this regard that affects all companies in the electricity industry, **Terna has already developed programs for checking and containing its direct and indirect emissions**, and will maintain its commitment to pursuing greater energy efficiency.

Terna's greatest contribution to the abatement of atmospheric emissions of CO_2 is constituted by its development of the grid, which increases the efficiency of the electricity system and **makes it possible to transport a growing production from renewable sources**. Furthermore, Terna also includes activity on the energy efficiency front in its 2010 Strategic Plan, on which see the section on the Strategic Plan. Within the limits imposed by the regulations against discrimination, Terna is engaged in a number of ways in fostering the development of the production of electricity from renewable sources. These ways include the development of more accurate systems for forecasting wind production, applied research and initiatives regarding smart grids (see the box on page 63), the unregulated business initiatives in the photovoltaic field (see the box on page 34), and the pursuit of joint solutions with producers for a faster and more effective authorization process (see the box on page 130). Finally, Terna participates in international initiatives and projects to develop an integrated Euro-Mediterranean electrical grid, on which see page 38.

Activities abroad

Terna's sale of its equity interest in Brazil in 2009 and its concentration on the Mediterranean and the Balkans have limited the potential critical situations that can emerge when operating abroad. However, the Company will **monitor conditions in the countries where Terna has advanced plans for cooperation** as far as environmental and social issues are concerned, including the prevention of corruption.

Human resources

Constant concern for human resources, first of all with regard to **safety**, but also **training for continual updating of the technical capabilities that are distinctive of the industry**, will continue to be a priority for Terna.
The question of professional updating will be particularly significant with regard to the generational turnover that will continue to concern Terna's personnel in the coming years. The response strategy – one of the distinctive elements of which is the passing on of knowledge through the Campus faculty – is described in detail in the box entitled "Management of the generational turnover".

Stakeholder engagement

The construction of a relationship based on mutual trust with our stakeholders begins with the consideration of their interests and an analysis of their compatibility with the Company's in order to adopt a consistent and transparent policy.
In preparing its Code of Ethics, Terna identified – through the active participation of its top management – eight most significant categories of stakeholders in terms of the continuity of the relationship and the importance of the Company's impact on them and vice versa.
For every stakeholder category, the following table shows the most important commitments expressed in the Code of Ethics and the specific instruments for monitoring and checking its expectations and opinions. The various monitoring instruments are used with different frequencies.

Stakeholder	Commitments	Instruments for monitoring and checking
Shareholders, financial analysts, and providers of capital	• Balanced management of financial objectives and ones regarding service security and quality. • Creation of value for shareholders in the short and long term. • Corporate governance aligned with the best practices. • Adoption of systems to forestall and control risks. • Attention to shareholders and informing them in a timely and equal fashion. • Commitment to avoiding insider trading.	• Road shows, dedicated meetings, website, dedicated e-mail. • Sustainability rating.
Employees	• Safeguard of the physical integrity of employees and their personal dignity. • Nondiscrimination and equal opportunity. • Investment in professional growth. • Recognition of individual capabilities and merit.	• Annual survey of people satisfaction, survey on the instruments of internal communication.
Suppliers	• Opportunity to compete on the basis of quality and price. • Transparency and fulfillment of agreements and contractual commitments. • Transparent procurement processes. • Supplier qualification, including through quality, environmental, and social certification. • Anti-mafia and anti-recycling prevention with suppliers.	• Procurement portal, direct meetings.
Grid users, customers, and business partners	• Efficient, quality service aiming at constant improvement. • No arbitrary discrimination among companies. • Confidentiality of information regarding grid users.	• Consultation committee on Grid Code, dedicated meetings.
Regulatory authorities and institutions (AEEG)	• Transparent, complete, reliable information. • Meeting deadlines. • Fair and collaborative approach to facilitate the regulatory task.	• Periodical meetings.
Institutions and associations	• Representation of the Company's interests and positions in a transparent, scrupulous, consistent way, avoiding collusive attitudes. • Ensuring utmost clarity in relations.	• Direct participation on technical committees.
Media, opinion groups, scientific community	• Public and uniform dissemination of information. • Exclusion of exploitation and manipulation of information to the advantage of the Company. • Pursuit of areas of cooperation of reciprocal interest with associations representing stakeholders.	• Presentation and dissemination of the Sustainability Report, organization of seminars, workshops, targeted surveys.
Society and local communities	• Ensuring security, quality, and cost-effectiveness of the service over time. • Assessment of long-term effects of the Company's choices. • Reduction of environmental impact of corporate activities. • Advance dialogue with local institutions to carry out investment that is respectful of the environment, landscape, and local interests. • Support for initiatives with social, humanitarian, and cultural value. • Provision of evidence of the implementation of environmental and social policy	• Process of consultation in planning the electrical grid, surveys of samples of the population.

Shareholders, financial analysts, and providers of capital

The transparency and timeliness of information characterize the relationship between Terna and both its institutional and its individual investors. Specifically, the Investor Relations Unit interfaces with the former and the Department of Corporate Affairs with the latter.
Retail investors can contact the Company by phone at (+39) 06-8313.8136 and (+39) 06-8313.8359 and by e-mail at: azionisti.retail@terna.it.
For institutional investors, the phone numbers are (+39) 06-8313.8106 and (+39) 06-8313.8145 and the e-mail address is investor.relations@terna.it.
To further facilitate the Company's dialogue with its investors, Terna activated a dedicated Investor Relations Section on its institutional website (www.terna.it), which offers everyone **the opportunity to be promptly brought up to date on the Company's economic results and strategic objectives.** The section provides financial information (financial statements, half-year and quarterly reports, sustainability reports, presentations to the financial community), data, and documents of interest to most shareholders (press releases, composition of the corporate bodies, the bylaws and shareholder-meeting regulations, documents and other information regarding corporate governance, the Code of Ethics, the Organizational and Management Model pursuant to Legislative Decree 231/2001). In addition to the complete documentation produced by the Company in an interactive version, web streaming also enables visitors to the site to follow the conference calls organized both when the Company's results (quarterly, half-year, and annual) are published and when significant extraordinary transactions take place. Live participation through the two channels in these events exceeds on average fifty connections, including the analysts who follow Terna's shares and publish studies.
During 2010 retail investors made 23 requests (29 in 2009, 27 in 2008), including 18 via the dedicated e-mail address. The requests regarded dividends and the related accounts, bonds, and the documentation for shareholders' meetings.
The Corporate Social Responsibility unit maintains relations with the sustainability rating agencies, to which it provides the information necessary to assess the Company's ESG performance. In 2010 the CSR unit, sometimes in cooperation with the Investor Relations unit, provided information requested by the following organizations: Carbon Disclosure Project, Goldman Sachs, Oekon Research, SAM-Sustainable Asset Management, Sustainalytics (2011), Triodos Bank, and Vigeo.

Employees

Assessment of training effectiveness 2010

In February 2011 a survey was carried out that involved all resource heads and coordinators to obtain feedback on the quality of the training provided during 2010.
Of the 58% of the heads involved who responded, 95% thought the training received personally was effective or very effective with regard to the interest and usefulness of its content. The opinion of the effectiveness of the training received by those working under them was equally positive (93%). The Campus "Network Experiences" also received a good assessment. This instrument was particularly well regarded for its ability to focus training on the development of the Company's core competences. For further information on training, see pages 143-145.

"Sustainability and Grid Development" road show at the AOTs

Starting in Naples at the end of May 2010 and ending in Cagliari in June 2010, the "Sustainability and Grid Development" road show, organized by the External Relations and Communication (Corporate Social Responsibility unit) and Institutional Affairs Departments, was undertaken to share with the people who work at the local level the distinctive elements of Terna's approach to sustainability and the critical situations that the Company faces in developing the grid.
Introduced by a talk – on the spot or in video conference – by Chairman Luigi Roth, the meetings with the 8 AOTs constituted an element of continuity with the dissemination of the Code of Ethics that took place at the end of 2009 and the beginning of 2010. Through awareness raising and appeals for contributions and ideas from people working at the local level, the meetings fostered a consistent approach to the management of business in relations with local stakeholders in keeping with Terna's strategy and values. Overall the initiative involved about 250 people.

Presentations on sustainability to the central Departments

In the last quarter of 2010 the personnel of the central Departments of the Rome headquarters were involved in presentations on Terna's approach to sustainability organized by the Corporate Social Responsibility unit. Aimed at sharing concepts, results, and work programs, the presentations involved about 280 people, mainly senior and junior executives.

Relations with labor unions

The Protocol on the System of Industrial Relations that governs relations with the labor unions at the corporate level establishes a structured system of relations and arrangements on advance and/or periodical bargaining, discussion, consultation, and information, on which see the section on Industrial Relations.
In the three-year period 2008-2010, bargaining with the industry labor unions led to the signing of 33 agreements.
With particular regard to 2010, pending the definition of regulations for the three-year period 2011-2013 through second-level bargaining, the Company signed an agreement with the national heads of the labor unions regarding the regulations and financial appropriation for 2010.
Finally, advance discussions were held regarding the new organizational structure of the Dispatching and Management, Procurement and Contract Work, and Grid Development and Engineering Departments.

Grid users and companies in the electricity industry

Consultation Committee

As in the last few years, in 2010 Terna continued to promote the engagement of the electricity companies concerned by the regulation of the transmission and dispatching services performed by Terna, including through the activities of the users' Consultation Committee.
The Committee is the technical consultation body instituted in accordance with the Prime Minister's Decree of May 11, 2004, which regulates the unified ownership and management of the grid. It is the permanent place for consultation with the companies in the electricity industry. In effect, the Committee includes representatives of the different categories of companies, namely: distributors, producers (from both conventional and renewable sources), large industrial customers, wholesalers, and consumers, with the participation of the Electricity and Gas Authority and the Ministry of Economic Development as observers.
The Committee has an advisory role and proposes changes in the regulations in force. It is also entrusted with conciliatory duties, and upon request by the parties can facilitate the settlement of disputes among grid users stemming from the application of the Grid Code.
During 2010, the Committee was mainly involved in expressing its opinion on the revision of three regulatory issues:

- the technical requirements for wind plants. With regard to the Electricity and Gas Authority's Resolution ARG/elt 5/10 on *Conditions for dispatching electricity produced from renewable sources that cannot be programmed*, Terna consulted the Committee on a proposal concerning the procedure for using devices for remote disconnection, as well as an updated version of Attachments A.6 and A.13 to the Grid Code, which establish the criteria and procedures for connecting generating plants to Terna's control system, taking into account the specificities and peculiarities of wind production units.
- the reform of the Electricity Market. In accordance with Law n. 2/2009 and the Ministerial Decree of April 29, 2009, Terna consulted the Committee, and acquired its opinion, on the new dispatching rules in order to integrate on the functional level the midday power market managed by the Electricity Market Manager with the dispatching services market managed by Terna. These rules will apply as from January 1, 2011.
- the Grid Development Plan for 2011. As in previous years, the Committee was asked to express its opinion on the 2011 edition of the Plan for the Development of the National Transmission Grid, with regard to both the new development works planned in particular and the Plan as a whole.

In expressing its opinion on the Plan, the Committee paid particular attention to the length of the authorization processes and emphasized how the critical situations of grid infrastructure development are concentrated mainly in the authorization stage. In effect, the analysis of the average time it takes to construct grid infrastructure works – from the realization of the need for a new power line to when it is actually commissioned – highlighted how most of that period of time is due to completing the procedures aimed at obtaining the authorization, in spite of the fact that the law provides for precise deadlines by which the governments concerned must issue their documents.

Development of the My Terna portal

In 2010 Terna completed its new customer-relationship-manager portal My Terna, whose construction process involved the corporate associations of the electricity industry. See the section entitled "Relations with companies that provide the electricity service" on pages 100-101.

S01 Society and local communities

Consultation with local governments

Terna's approach to local communities comes into play especially when the Company constructs new lines – on which see the chapter on Environmental Responsibility – and consists in engaging local institutions (Regions, Provinces, Municipalities, Parks).This process includes listening to stakeholders' opinions and the pursuit of an agreed on solution for the location of the new infrastructure and the reorganization of existing infrastructure. The dialogue between Terna and local institutions requires about 20 resources of the Institutional Affairs Department, who devote themselves to institutional meetings and joint on-the-spot investigations with all the bodies concerned. This is an intense activity, because the process that precedes and accompanies the authorization of new works is very complex.

The pre-authorization process lasts on average from one to three years and counts six phases that entails the following activities:

- meetings to define and formalize cooperation as part of the Strategic Environmental Assessment
- meetings to define a system of criteria for analyzing the local area and select the alternatives with the least impact
- meetings to apply the criteria to the local area and identify the corridor in which the work is to be constructed
- meetings to define the feasibility strip inside the corridor and the related protocols of understanding
- meetings to define and formalize conventions and compensations.

EU19

The authorization process is implemented through service conferences and lasts on average from one to two years.

The following table summarizes the participatory decision-making processes with the stakeholders concerned on energy planning and infrastructure development, as well as the results of the engagement.

THE MAIN CONSULTATION ACTIVITIES

Work	Type	Length	Governments Involved	Number of meetings
"Foggia-Villanova (PE)" electric line ("Foggia-Gissi (CH)" segment) - Abruzzo, Molise, Puglia	380 kV	about 120 km	3 Regions 3 Provinces 19 Municipalities	23
"Fano (PU)-Teramo" line	380 kV	about 190 km	2 Regions 6 Provinces 45 Municipalities	18
"Castrocucco-Maratea" line - Basilicata	150 kV	15 km	1 Region 2 Municipalities	2
Interconnection of the islands of Campania (part of the work)	150 kV	30 km	3 Municipalities	6
"Deliceto-Bisaccia" line - Campania and Puglia	380 kV	about 35 km	2 Regions 2 Provinces 5 Municipalities	24
"Montecorvino-Avellino Nord-Benevento II" line ("Avellino Nord-BN II" segment)	380 kV	65 km	1 Region 3 Provinces 23 Municipalities	15
Station north of Bologna - Emilia Romagna	380 kV	25 km of overhead lines 20 km of demolitions	2 Municipalities	3
Rationalization of Reggio Emilia area - Emilia Romagna	132 kV	38 km of overhead lines 14 km cable 44 km of demolitions	1 Province 7 Municipalities	4
Riccione-Rimini link	132 kV	(work being decided, consultations in progress)	Municipalities of Riccione, Rimini, Coriano	2
Reorganization of Rome metropolitan area - Lazio		165 km of demolitions 100 km of new overhead lines 67 km of underground cable	1 Region 1 Municipality 3 Parks	10
New 380/132- kV station and link to existing 380-kV "Caorso-Cremona" line - Lombardy	380 kV	about 9 km	1 Province 2 Municipalities	3
"Fano (PU)-Teramo" line - Marche	380 kV	189 km (in the consultation stage the removal of 118 km of 220 kV or 40 km of 132 kV)	2 Regions 6 Provinces (5 Marche, 1 Abruzzo)	6
"S.ta Teresa-Tempio-Buddusò" line - Sardinia	150 kV	about 95 km	1 Region 1 Province 9 Municipalities	3
"Selargius-Goni" line - Sardinia	150 kV	about 30 km	1 Region 1 Province 12 Municipalities	2
Mulargia station - Sardinia	150 kV		1 Region 1 Province 1 Municipality	2
"Chiaramonte Gulfi-Ciminna" line - Sicily	380 kV		1 Region 6 Provinces 22 Municipalities	9
Reorganization of grid in the Lucca area - Tuscany	380 kV and 132 kV	(work being decided, consultations in progress)	Consultations currently in progress with Municipality of Lucca	2
Rationalization of Arezzo (part of work) - Tuscany	380 kV, 220 kV, and132 kV	about 81 km	1 Region 2 Provinces 7 Municipalities	5
Rationalization of HV grid in Umbria	120 kV	(work being decided, consultations in progress)	1 Region 2 Provinces (so far 1 Municipality involved in consultation)	10
Schio station (Vicenza province) - Veneto	220 kV	consultations in progress	1 Municipality	8
Reorganization grid in upper Belluno area (Belluno province) - Veneto	380-220-132 kV	awaiting authorization	1 Province 4 Municipalities	4
Polpet station (Belluno province) - Veneto	220 kV	awaiting authorization	1 Province 3 Municipality	0
Cross-Veneto electrical line	380 kV	consultations in progress (authorization process to start by end of 2011)	2 Provinces 9 Municipalities 1 Park	5

S01

Initiatives in Friuli-Venezia Giulia

Over time, the two 380-kV lines in Friuli-Venezia Giulia – running since 1972 and 1983, respectively – have become insufficient to securely satisfy the electricity requirements of the region, which have more than doubled in the last 40 years.

To remedy this critical situation, in 2003 Terna included the "Udine Ovest-Redipuglia" overhead line in its Development Plan for the National Transmission Grid, which was then approved by the government.
The Company's sustainability approach to the area concerned can be seen in the features. Against the construction of 40 km of new 380-kV line between Udine Ovest and Redipuglia along a route that for 95% of its length it will cross agricultural land far from built up areas, the Plan provides for the demolition at the same time of 110 km of old lines with more than 400 pylons that graze several hundred buildings.

In keeping with its strategy of consulting the local institutions, in 2006 Terna initiated relations with the Friuli-Venezia Giulia Region, involved all the Municipalities concerned to decide with them on the route of the new line, and after about 70 meetings signed a Protocol of Understanding. However, once the authorization process was started the project sparked opposition from the local communities and the "Committee for the Defense of Rural Friuli", which disputed its usefulness and in any case requested that the line be buried.

Terna saw correct and extensive information on the features of the new line, the demolition of the obsolete lines, and the advantages for the about 200,000 inhabitants concerned as the instrument for overcoming the hostility to the work, with the issue of press releases and informative notes aimed at providing greater detail on the new line, the rationalization possible thanks to it, the security of the electricity system, and the reasons why it is not technically possible to bury it. Furthermore, several Terna representatives participated in debates that were broadcast live by local TV channels.

To reach the largest number possible of inhabitants of the municipalities concerned, in August 2010 Terna carried out a campaign of information and awareness raising with both static posters (in bus shelters, the regional Ronchi dei Legionari airport, the Udine railroad station, and information kiosks) and mobile ones (inside and on the sides of city and suburban buses) highlighting the benefits of the new line: from the dismantling of 400 old pylons and the avoidance of 12,000 tons of CO_2 to the 600 additional megawatts of power for businesses and families and the saving of 60 million euro on electricity bills for the system. The issues proposed on the posters could be studied in greater depth by anyone interested through the dedicated information on the Company's website at www.terna.it.

An additional occasion for discussion was fostered by the Ethics Committee of Etica S.g.r. – a savings management company that institutes and promotes exclusively socially responsible investment funds – which, at the request of the "Committee for the Defense of Rural Friuli", in May 2010 contacted Terna to obtain more information on its project in Friuli-Venezia Giulia and organize a meeting between delegations of the Committee and Terna in September.

Finally, Terna commissioned 3 surveys from the ISPO (Institute for Public Opinion Studies), directed by Professor Renato Mannheimer, to measure the impacts of its initiatives in Friuli Venezia Giulia. The first (a quantitative one) was carried out on a representative sample of the local population. The second (a qualitative one) was carried out through interviews of 11 local opinion makers, and the third (another quantitative one) was based on the interviews of 84 regional opinion makers. Among the most important results of the surveys were the favorable attitude regarding the project by both targets (population: 69% pro, 13% con, 18% no opinion; opinion leaders: 80% pro, 16% con, 4% no opinion) and incomplete knowledge about the characteristics of the project, including the removal of existing lines in 30 municipalities, a fact that signals the advisability of more incisive information actions.

The population's attitude with regard to the information campaign was overall favorable, and only in a minority of cases was it interpreted as an attempt to bias people.
The surveys carried out were presented by the ISPO on April 29, 2011 in Udine, in the presence of Terna representatives, at two meetings dedicated to the presentation and discussion of the results with the stakeholders involved in the survey (journalists and representatives of the local institutions).

Suppliers

The usual place where Terna and its suppliers meet is the **Procurement Portal**, the section of the institutional website through which it is possible to learn about tenders, participate in online tenders, and go through the qualification process for being included in the supplier register.
The Procurement and Contract Work Department also maintains direct contacts with suppliers to manage contractual relations and improve the Company's knowledge of the specific problems of groups of suppliers. In this regard the Company periodically organizes meetings with the qualified companies or industry associations to inform them of new developments regarding requisites or concerns connected with the ethical conduct expected in relations with Terna.
Terna presents and discusses its most important investment projects – as well as the related procurement plans – **with the electro-mechanical companies in the electricity industry**, many of which are members of Confindustria ANIE. In effect, the Company's large program of works, with a significant increase of investment, will require an even greater effort by its suppliers, which are called on to transform themselves from simple contractors into veritable technological partners. The new challenge is entrusting entire works, in which the contractor will be involved right from the earliest stages of planning. Furthermore, when Terna presented the work to reorganize the power lines of Rome – with more than 300 million euro of investment to rationalize and develop the Capital's electricity grid in an environment-friendly way – the Company hosted at its headquarters representatives of the Unione Industriali di Roma (Rome Industrialists' Association) to begin a fruitful and constructive dialogue with them. Finally, Terna participates actively in the main occasions for meeting its suppliers, such as industry meetings, expos, and conferences (e.g. CIGRE, Powergrid).
In order to expand its portfolio of suppliers, Terna permanently engages in "**procurement marketing**" through market scouting, benchmarking, and monitoring the performance of suppliers, which entails constantly meeting with both Italian and foreign supplier firms.

Media, opinion groups, and the scientific community

Demoskopea's "City Journalists 2010" survey

The 2010 edition of Demoskopea's "City Journalists" survey – conducted with 80 economic and financial journalists on a sample of 61 companies to assess the quality of their press offices – again showed excellent results for Terna's, which gained 11 percentage points with respect to 2009 and rose from twelfth place to seventh.

Equally flattering was the result regarding the parameter of the "familiarity" of the journalists with the company. Compared to 2009, Terna recorded an increase of 10% against an average of 5%. In absolute terms, Terna gained 5 places, coming in 24th (5th among energy companies).

Sixth Show of Social Responsibility "From Saying to Doing" (Milan, September 28-29, 2010)

In the "Young Peoples' Space" at the Sixth Show of Social Responsibility "From Saying to Doing", Terna participated in the "Young people meet Enterprises" initiative and was paired with a group of students from the Bocconi University, which analyzed its approach to sustainability through an examination of the 2009 Report.

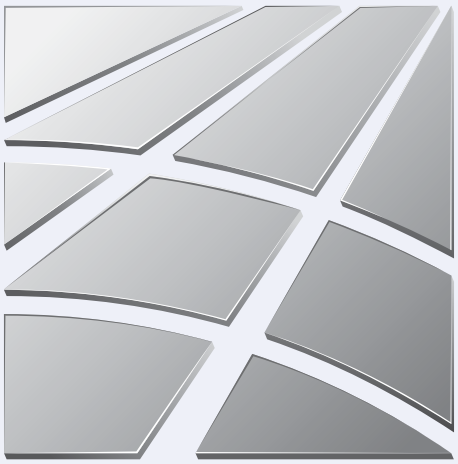
Sixth Master's Program in Corporate Citizenship - FONDACA's integrated corporate responsibility strategies

During 2010 Terna supported the sixth edition of the "Master's in Corporate Citizenship – Integrated corporate responsibility strategies" organized by the Foundation for Active Citizenship (FONDACA) in cooperation with the Scuola Superiore Sant'Anna of Pisa and Boston College's Winston Center for Leadership and Ethics.
The Master's program aims to contribute to closing the gap between training supply and demand in the field of corporate citizenship and is characterized by its multi-stakeholder and interactive approach to the subject, which makes the most of the experiences of the participants. During this edition a group of students analyzed Terna's 2009 Sustainability Report and presented the results.

Bolivian technician working on a line

GIAMPIERO TALKS ABOUT IT WITH HIS FRIEND AND COLLEAGUE ADRIANO SELVA AND WITH HIS HEADS. WITH TERNA'S SUPPORT, THEY BEGIN BY STUDYING THE AREA AND THEN REDESIGN THE LINE WITH A HIGHER, 70-KV VOLTAGE. IN OCTOBER 2006 THEY BEGIN TO CONSTRUCT IN KAMI: NOT ONLY THE LINE, BUT ALSO PROFESSIONAL COMPETENCE, WITH THE TRANSMISSION OF KNOW-HOW TO THE LOCAL WORKFORCE.

2010



Responsibility for the electricity service

Terna

Our approach

Terna's core business is the transmission and dispatch of electricity. These are services licensed by the government, which assign Terna the role of National Electricity System Operator. In Italy, Terna is also the main owner of the high- and extra-high-voltage National Transmission Grid, with more than 57,000 kilometers of lines, and is also the electricity system operator. The service provided by Terna is indispensable for the functioning of the entire electric system and thus for supplying electricity to the population.
Given the nature of the service, Terna is not affected by the problems of product responsibility typical of producers of goods or services for end customers, such as the explanatory content of labels, marketing, and advertising.
Even though the end users of the electric service are not direct customers of Terna, but rather of companies that distribute and sell electricity, **the role it performs in the electric system makes Terna ethically responsible to all of Italian society for the service** and the sense of responsibility for a public service is part of the work culture of the Company's personnel. Thus Terna feels strongly the responsibility entrusted to it by the government license and makes the latter's objectives its own. In particular, in Italy the Company undertakes to:

- provide a service characterized by security, reliability, quality, continuity, and cost-effectiveness, maintaining the demand and supply of electricity constantly in equilibrium
- keep the transmission system efficient and develop it
- observe the principle of impartiality and neutrality to ensure that all grid users are treated equally.

The responsibility regards both everyday operation of the transmission grid and the medium and long term. The grid is Terna's asset, but it is also essential infrastructure for Italy, and its management today, maintenance, and development must ensure its efficiency and security in the immediate future, as well as for future generations.
Our managerial objectives are therefore first of all connected with observing the regulations and meeting the specific targets established by the industry's regulatory authority (the AEEG, Electricity and Gas Authority). Particularly important among these are the different measures of service continuity. Terna's performance in the last few years has always been in line with or exceeded the targets set.
Terna's role in the Italian electricity system entails specific objectives regarding the security and development of the grid. **The security objectives are stated in the Security Plan for the electricity system**, which plans the investment necessary to improve various aspects that affect the security of the electric system.
The grid development objectives are published in the Development Plan, which is approved every year by the Ministry of Economic Development and sets forth the construction of new electric lines and stations necessary to ensure the efficiency and cost-effectiveness of the system. Terna also selects the works according to the condition that overall their benefits for the electricity systems are greater than their costs.
The task of operating the electricity system entails knowledge of confidential data of the transmissions and dispatching services users, particularly electricity producers. Furthermore, **Terna is entrusted by the National Statistics System with compiling the statistics of the Italian electricity industry**, for which information is collected from the companies concerned. For these data and those it processes to manage its economic relations with grid users, Terna follows the best practices for protecting confidential data in order to prevent the information in its possession from being accessible or communicated to third parties that are not entitled to it.

EU21 The security of the electricity system

Ensuring the security of the Italian electricity system and contributing to the security of countries with which Italy is interconnected is a sensitive task, which Terna performs through a series of actions determined by a scrupulous assessment of operating risks. **The objective is to maintain the risk of service outage within pre-established limits and mitigate as much as possible the negative consequences** in the event they occur.
To keep levels high of security, Terna must maintain an excellent performance in all the phases of its activities, from the development and construction of infrastructure to plant maintenance and real-time operation. The benchmark for the criteria to adopt is the best European practices in the field of the management of interconnected electricity systems. These practices are the result of the cooperation that has taken place for some time within the international organizations in which Terna participates as a transmission system operator (TSO). It is particularly in the most significant organization,

the ENTSO-E – which was founded in 2009 to replace the international organizations ATSOI, BALTSO, NORDEL, UCTE, UKTSOA, and ETS) – that the TSOs cooperate in writing reports on the security and adequacy of the European electricity system, international grid codes, and a ten-year plan for the development of the European electric grid. (See the "ENTSO-E: coordination among European grid operators" box. Further information is available in the section on the electricity system of the Company's institutional website at www.terna.it).
For Terna, preventing and containing operating risk means monitoring and protecting the physical integrity of its plants, preparing defense plans to limit malfunctions, preventive planning of real-time operation and control, and training the employees involved through modern simulation instruments that reproduce the behavior of the system as it can be observed from control rooms.
Terna's commitment to continual improvement is expressed in the Plan for the Security of the Electricity System prepared by the Company and approved by the Ministry of Economic Development. The Plan is drawn up every year with a three-year time horizon. In the different editions of the Plan since it was introduced in 2003, the approach to the security of the electricity system has become increasingly complex.
Initially, the most pressing need was to enhance anti-blackout measures, but subsequently the Company also worked on infrastructure aspects such as the reinforcement of disaster-recovery structures and the physical security of plants, as well as introducing control concepts in line with modern theories on smart grids. (See the following box). **At the same time, the investment called for by the Plan has increased from 10 million euro in 2004 to 96 million in 2010.** EU6
In 2010, progress continued to be made in:

- reducing the risk of power failures, thanks to integrated maintenance planning
- applying instruments – such as Optimal Power Flow – for the optimal provision of resources for the dispatching service and the control of congestion on a nodal basis
- introducing advance-dispatching kinds of processes and instruments the real-time management of the system
- controlling and monitoring production from renewable-energy plants in regulatory activities
- controlling and correcting automatically the most frequent congestions of the electricity system
- planning the new control system
- gradually extending the anti-intrusion fencing and video surveillance of electric stations
- upgrading the defense system through the remote control of distributors, which makes the continuous control of the load available for disconnection in case of emergencies.

The seventh edition of the Security Plan for 2010-2013 provides for 212 million euro of investment.

Terna and smart grids

EU8

The development of generation from renewable energy sources – which is bound to continue in the near future at high rates of growth, thanks, among other things, to the European strategy of containing CO_2 emissions – poses new challenges for the transmission and distribution of electric power.
In particular, both the unpredictable variability of wind and sun availability and the increasing production by small plants dispersed over the distribution networks conflict with the traditional paradigm of the electricity system, which is based on a transmission grid that transports huge quantities of power from large centers of concentrated production to the points of connection with the distribution networks, whence it is distributed for widespread consumption.
The paradigm change makes it necessary to develop networks and control techniques capable of fostering the dissemination of renewable energy sources without lowering service security. Multifunctional, so-called "smart" grids can regulate multi-directional flows of power, integrate renewable sources, and make access to the electric system more flexible for grid users. Their development also clears the way for innovative scenarios from the technological point of view.
Even though transmission grids are already capable of managing variable flows and multi-directional flows, in this situation of radical transformation an essential role is performed by the transmission system operator, which is entrusted with ensuring the equilibrium of power consumption and production, as well as the continuous control of power flows. This task requires innovative solutions in a system featuring an increasing contribution of energy from renewable sources, whose discontinuity can cause security problems, as well as efficiency ones, for the dispatching service (i.e., the coordinated management of injections and withdrawals, as well as the flows, of electric power). Furthermore, the system must be able to cope with malfunctions and other abnormal situations by redistributing power flows without suffering service outages and permanently violating the working limits of the equipment that comprises the entire system. It is on the basis of these objectives that Terna has concentrated its development priorities on 4 aspects of smart grids:

- **Special protection systems**, i.e. technologically advanced automatic devices that react to large malfunctions. These systems require the construction on a large scale of immediate-remedial- action schemes that can limit the consequences of a dysfunction and even activate self-healing mechanisms.

- **Advanced forecasting instruments** for obtaining a more accurate prediction of production from alternative energy sources such as the 24-hour forecast – based on meteorological data – of the production of wind and photovoltaic plants or the short-term forecast based on real-time measurements, e.g. through self-powered sensors on high-voltage towers
- **Dynamic line rating**, i.e. the dynamic determination of the capacity limits of lines according to environmental conditions, as opposed to fixed and excessively reductive limits in favorable meteorological conditions
- **Optimization of maintenance plans.** Like other grid elements and the production units, transmission lines require periodical maintenance that makes them unavailable for the entire duration of the work. The management of such maintenance plans requires that a sufficient level of grid infrastructure security be ensured, while limiting as much as possible the costs associated with such service. Therefore, the Company has implemented various kinds of initiatives, such as the simulation of environments and scenarios, the definition of algorithms for the optimal allocation of maintenance work, and the creation of tools for optimizing the managements of unavailability plans in order to minimize dispatching costs, while fulfilling obligations regarding the security and suitability of the grid.

EU23

Terna at the CIGRE 2010 meeting

Every two years the CIGRE (International Council on Large Electric Systems) – one of the largest global associations dedicated to the promotion and dissemination of technological culture in the field of the generation and distribution of high-voltage electric power – organizes an event that gathers researchers, academics, producers, distributors, traders, and regulatory entities in Paris to share experiences, innovations, projects, and discoveries regarding high-voltage electric power.
At the meeting that took place in August 2010, **Terna presented the results of a study carried out on the dynamic effects of short-circuit currents** of up to 63 kA (the new anticipatory value for several 380 kV electric stations of the NTG). The study began by identifying the critical points of the current unified station design in order to find new design solutions that can ensure that stations can withstand the greater electro-dynamic stress. Short circuits arise during the passage of an abnormal current that induces electro-dynamic stress and overheating in the different components of the circuit (wires, equipment, transformer sheathing). This can cause the connections to break and destroy the equipment, with parts of the station consequently out of order. During the study an experimental model of a 380 kV unified bay was constructed, thanks to which reinforcement measures to counter the effects of the short circuits were tested, such as, for example, the introduction of spacing devices. The study furnished important information for coping with problems that can appear in finely meshed grids, as, for example, in Lombardia, Piemonte, and Veneto and for this reason has awakened interest in colleagues involved with the English and German grids.
Other contributions focused attention on technical system aspects regarding the use of cables with extra-high voltage (380 kV) alternating current in electric transmission grids. Electric system studies are essential for assessing the technical feasibility of very long cable lines, as occurs more and more frequently in all economically developed countries. Terna has been participating for years in the CIGRE work groups dedicated to cable leaders and is a leader in this field because of the technical and scientific know-how it has developed on important projects such as the Turbigo-Rho and the Sorgente-Rizziconi lines, which have electric features that make them works of international interest.

EU6
EU23

The ASTROM Project for plant control

Effective plant control enables Terna to pursue the cost-effective and secure functioning of the electric system. This control is exercised through numerous peripheral devices connected by a redundant communications network to centralized complex IT systems. These devices, systems, and networks constitute infrastructure that can be subject to malfunctions, loss of confidentiality, and cyber attacks.
The dependence of Terna's core business on the intactness and continuity of the control system constitutes a corporate vulnerability that requires continuous monitoring. Therefore, together with partners, Terna promoted a project called ASTROM – Assessment of resilience to the threats of control and data management systems of electrical transmission networks. The purpose of the ASTROM Project is to identify a method for assessing the robustness of the control systems of electrical networks against threats. Even while the Project is still in progress, its results of the Project will furnish information that is useful for increasing corporate security. Terna's partners in the Consortium are: ENEA, ERSE, Elsag Datamat, Booz-Allen-Hamilton, and D'Appolonia.

Information security

As the operator of the national grid, Terna has in its database confidential information of the users of the transmission and dispatching services, in particular electricity producers and traders. Such information includes, for example, specific data regarding plants, with the related production capacity and injection plans presented to the electricity exchange.
Considering the significant commercial value of this information, **Terna implements the best practices for protecting sensitive data** in order to prevent information in its possession being accessible to unauthorized third parties or subjected to violations. The same also applies to:

- the data collected from industry companies for the purpose of compiling the industry statistics, a task performed by Terna within the framework of the National Statistics System
- the data put at the disposal of the industry Authority for monitoring the electricity market (TIMM applications, integrated text regarding the monitoring of the wholesale electricity market and the dispatching service market, the subject matter of Resolution n. 115/08 of the AEEG).

The responsibilities and procedures regarding the Company's information and ICT systems are established within the prescriptive framework of Terna's Information Security Policy and taken up again more specifically – for the purposes of the processing of personal data communicated to Terna by external parties – in the Security Planning Document, which is constantly updated.
During 2010, the Company further enhanced the level of protection of its information and information systems thanks to the first results of the **program to improve information security governance initiated by Terna in 2009**, which is based on the adoption of a framework structured according to the main international benchmark standards. The new framework enables the Company to select and implement the most suitable protection measures for increasing the security of the information processed through its computer system, with positive repercussions also on its safeguard of personal data.
The program also ensures Terna's conformance with the regulatory framework regarding information security, including the one regarding the protection of personal data.
To support this program Terna developed, and partly implemented towards the end of the year, a training and awareness-raising program, with initiatives at different levels aimed at increasing both the dissemination of the culture of information security throughout the Company and – for the specialists who manage the technologies – familiarity with the instruments and methods introduced by the framework.
In the second half of 2010 the Company **started the process of the ISO/IEC 27001:2005 certification** of the TIMM applications, with the objective of obtaining it in 2011. The project was agreed on with the AEEG and is meant to further characterize Terna in the field of governance and increase trust between the Company and its stakeholders.
The ISO 27001:2005 is an international standard that furnishes the requirements of an Information Security Management System (ISMS), in particular with regard to physical, logical, and organizational security.
The ISO/IEC 27001 standard adopts an approach based on continual improvement and is consistent with that of the ISO 9001 Quality Management System and risk management.
Even if applied to the circumscribed case of a company, certification of conformance with the ISO/IEC standard shows a high managerial and organizational standard, which goes well beyond the technical and operating one typical of information and technological security solutions.
As in previous years, in 2010 no complaints were recorded regarding violations of privacy or imprudent use of personal data by unauthorized users. PR8

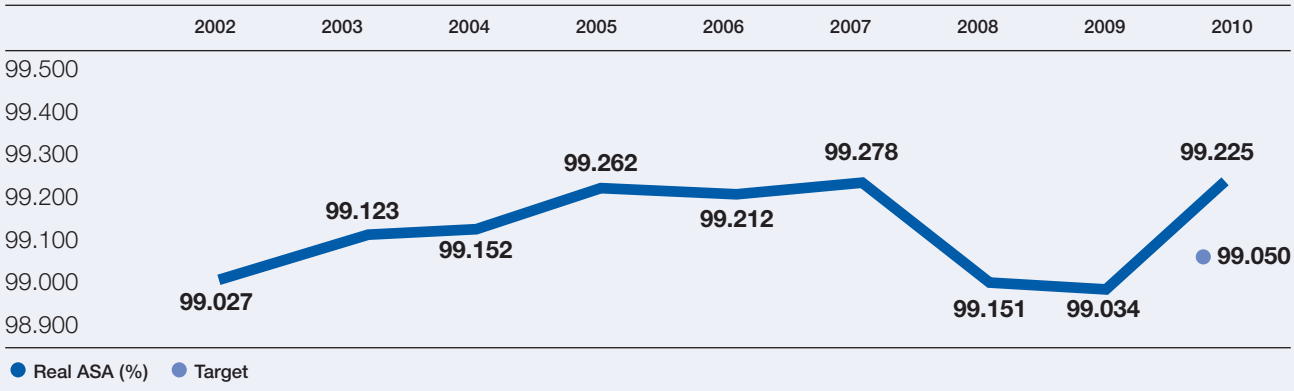
Service continuity and quality

EU28
EU29

Continuity is the most important parameter for measuring the performance of the electricity service. All the segments of the electric system – generation, transmission, and distribution – contribute to the final result: to ensure society the availability of electricity with outages below pre-established thresholds and with appropriate standards of technical quality.
The tables on the following pages show Terna's performance regarding the transmission service for which it is directly responsible. In particular, the results of the last few years and the related targets are reported, as well as the objectives for 2011.
Service continuity is also an objective recognized by the Electricity and Gas Authority (AEEG). See the "Revenue structure and regulatory framework" section.

During 2010 the Company continued the campaign to measure the voltage data in its plants through the monitoring network in service since 2006. The campaign also included cooperation with end HV customers and the distribution companies. Devices installed in the network furnish important information on the quality of the supplies of electric power.

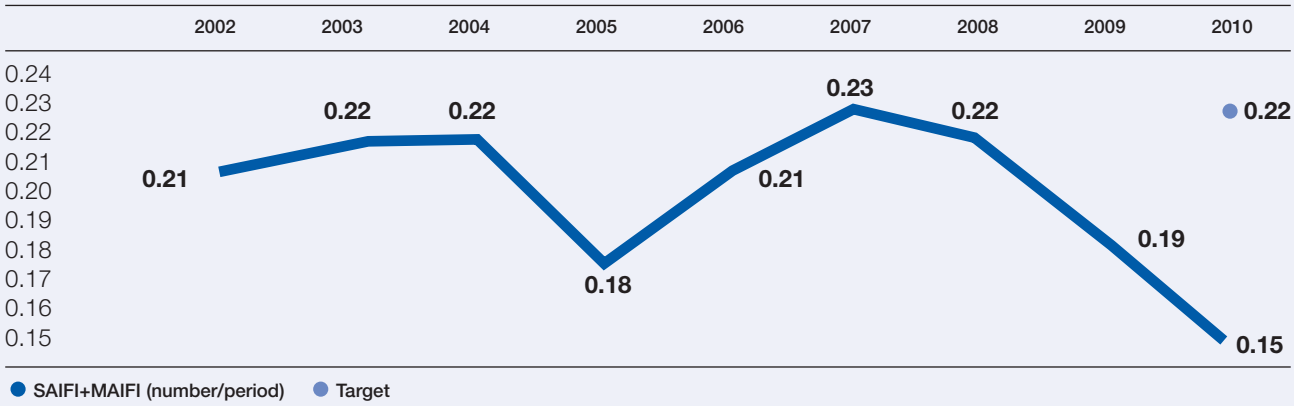
AVAILABILITY INDICATOR (AVERAGE SYSTEM AVAILABILITY - ASA)



Target 2009 **99.050%** → Target 2010 **99.050%** → Target 2011 **99.050%**

ASA (Average System Availability)
This measures the average availability of the electricity grid components for use in a given period. This index can be expressed with regard to specific categories (for example, by voltage level), grid areas, or – as in this case – the entire National Transmission Grid.
The performance achieved in 2010 exceeded the target set.

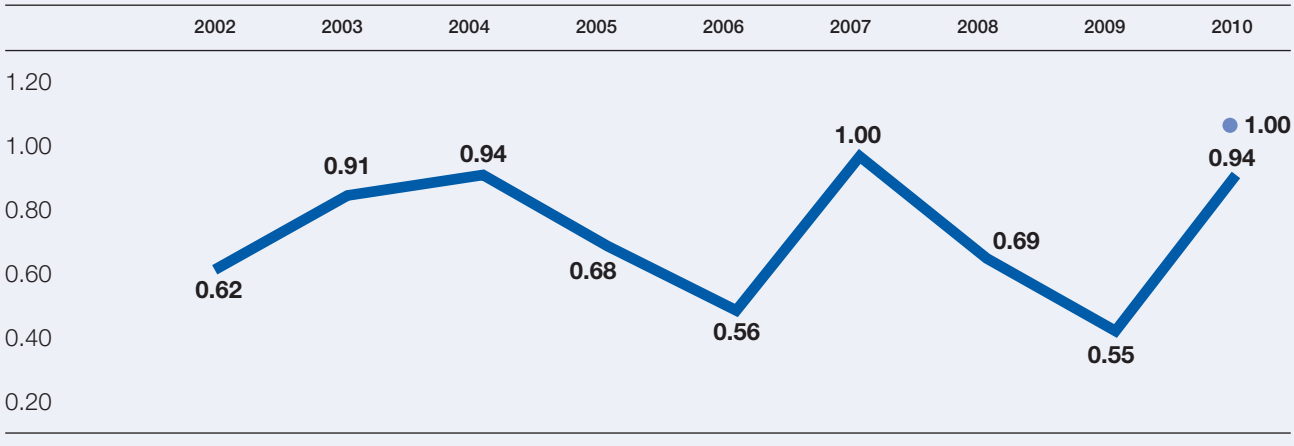
CONTINUITY INDICATOR (SAIFI + MAIFI)



Target 2009 **0.22** → Target 2010 **0.22** → Target 2011 **0.22**

SAIFI+MAIFI (Short Average Interruption Frequency Index + Medium Average Interruption Frequency Index)
This interruption frequency index is calculated as the ratio between the number of customers involved in short (less than 3 minutes) and long (more than 3 minutes) interruptions and the number of users of the National Transmission Grid. The figure is rounded to the second decimal. The performance achieved in 2010 exceeded the target set.

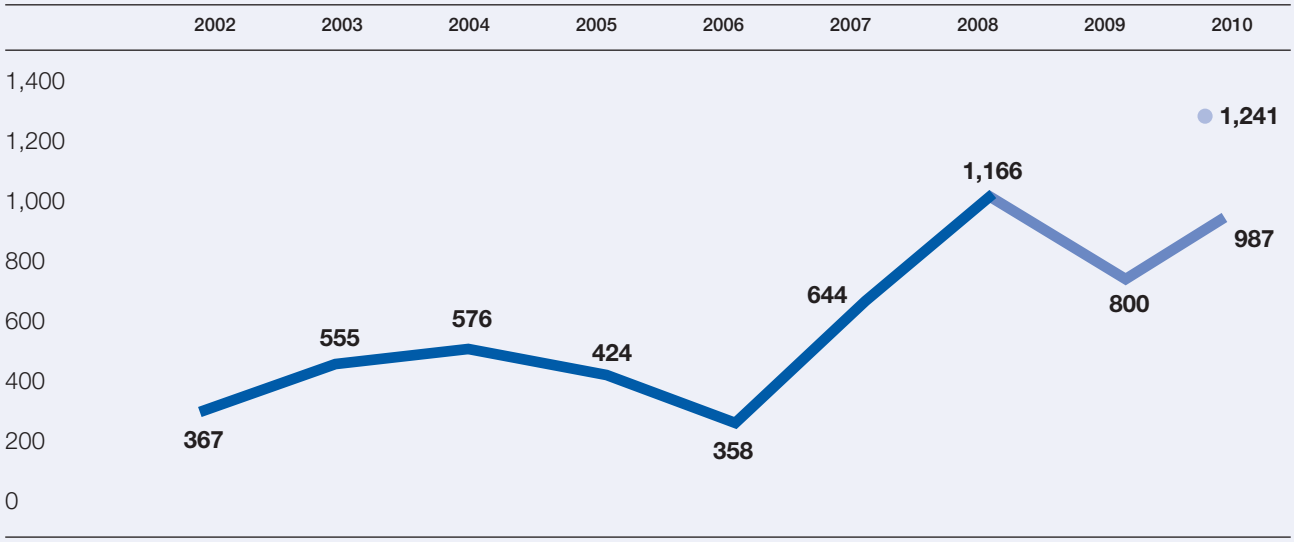
SYSTEM CONTINUITY INDICATOR (AVERAGE INTERRUPTION TIME - AIT)



Target 2009 **1.00** → Target 2010 **1.00** → Target 2011 **1.00**

AIT (Average Interruption Time)
The average interruption time of the electricity system (NTG) in one year is calculated as the ratio between the energy not supplied in a given period (ENS value) and the average power absorbed by the system in the period in question. The figure is rounded to the second decimal.
The performance achieved in 2010 is in line with the target set.

SERVICE CONTINUITY INDICATOR (ENERGY NOT SUPPLIED - ENS)



Numbers rounded to the unit

Target 2009 → **1,300 MWh** Target 2010 → **1,241 MWh** Target 2011 → **1,150 MWh**

ENS (Energy Not Supplied)
Until 2007 the ENS indicator was used as an internal process indicator for the purpose of improving Terna's performance. This indicator regarded the energy not supplied to users directly connected to the NTG because of events that affected the latter and did not consider the shares that were due to significant incidents.
With its Resolution 341/07, as from January 1, 2008 the AEEG has regulated the quality of the service provided by Terna through a mechanism based on incentives and penalties, which, among other things, revised the ENS indicator. The new index also includes the energy not supplied to directly connected users caused by events on connecting networks that are not part of the NTG and a share of the energy not supplied because of force majeure events or by Significant Events[1]. The performance achieved in 2010 exceeded the target set.

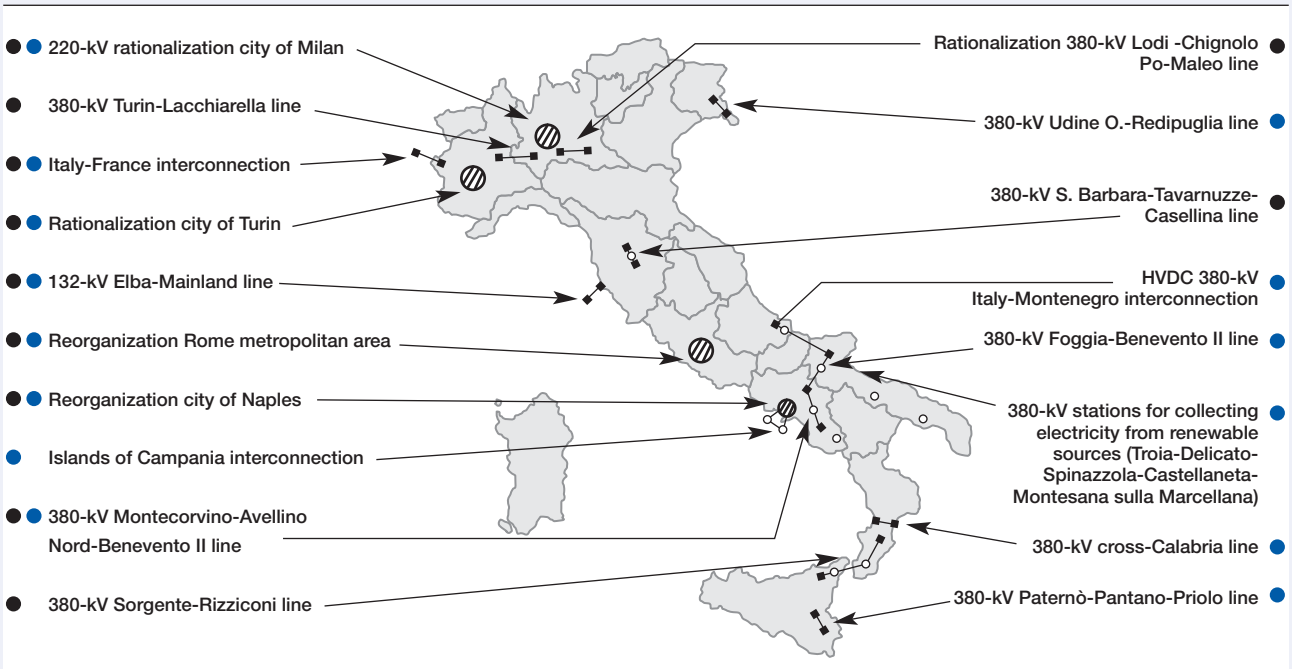
(1) By "significant event" is meant any interruption with net energy not supplied exceeding 250 MWh. The share that affects the ENS index is a percentage that decreases as the energy not supplied increases during a single significant incident.

Grid development

The transmission grid must be gradually modified and expanded in accordance with the developments of the production and consumption of electricity.
Both the demand and the supply of electricity grow at different rates in the different areas of Italy. The combination of these elements changes the flows of electricity and can cause congestion on the existing grid.
For this reason, Terna prepares **plans for investing in the development of the grid** in order to increase its efficiency and to keep up with the evolution of the country's power plants and consumption. The works that Terna plans and constructs also have positive repercussions on society. In effect, the condition for their construction is that the collective economic benefit they generate is greater than the cost. **Every year Terna prepares a Grid Development Plan with the works scheduled for the subsequent 10 years**, as well as the progress made on the works planned in previous years.
Since 2008 Terna has submitted its Development plan to the Strategic Environmental Assessment (SEA) procedure, as provided for by the European Union's Directive 42 of 2001.

Like the previous editions, the 2011- 2020 Development Plan is organized in two sections. The first contains a detailed analysis of the state of the grid and the new development requirements that emerged in 2010, while the second describes the progress made on the works included in the previous Plans. There is also a new part regarding the new infrastructure for the production from renewable sources, pursuant to the License Agreement, which regards grid infrastructure for the development of renewable sources and is aimed at facilitating the achievement of the national objectives with the maximum exploitation of the installed power, while fulfilling the security obligations of the electric system.
Approved by Terna's Board of Directors on December 16, 2010, the 2011-2020 Plan was sent for approval by the Ministry of Economic Development on January 28, 2011, while on March 18, 2011 – in accordance with the provisions of the SEA procedure – the consultation stage of the proposed 2011 Development Plan and the related Environmental Report began.
To verify the main expectations of our stakeholders, the Plan was submitted for prior assessment by the Grid Users' Consultation Committee (see the "Stakeholder engagement" section), which expressed a favorable opinion on November 4 with regard to the new works and on December 15 with regard to the Plan as a whole.

MAIN WORKS OF THE 2011 DEVELOPMENT PLAN



Grid development in 2010

Main works constructed

With the construction of the second terminal, the direct-current submarine-cable connection between the Fiume Santo station in Sardinia and the Latina station on the mainland was completed. Inaugurated in March 2011 in the presence of the Minister of Economic Development, the SA.PE.I. is one of the most important strategic works planned by Terna to upgrade the Italian electricity system. The submarine connection is about 435 km long at a depth of up to 1,640 meters below sea level – the deepest in the world – and cost more than 750 million euro.

During the year the following works were also completed:

- 380-kV Casellina-Tavarnuzze-S. Barbara electric line in Tuscany, which will allow the S. Barbara power station's production capacity to be fully exploited, as well as providing environmental benefits
- the 380-kV Ittiri-Codrongianos line in Sardegna, which will increase the security of the transmission grid and improve the management of the local production
- the 380-kV Cagno electric station in Lombardy, functional for the connection of the Mendrisio-Cagno merchant line
- the 380/150-kV Maida electric station and related 380-kV links in Calabria, functional for the connection of the renewable-energy plants under construction
- the 380/150-kV Bisaccia electric station and related 380-kV links in Campania, functional for the connection of the renewable-energy plants under construction
- the 220-kV Castegnero electric station and related 220-kV links in Piemonte to ensure an appropriate reserve supply and improve service quality on the local grid
- the 220-kV SF_6 Porta Volta electric station as part of the rationalization of the Milan electric grid
- the 380-kV Turano electric station in Lombardy, functional for the connection of a new traditionally fired plant
- the 380-kV San Severo electric station in Puglia, functional for the connection of a new traditionally fired plant
- the 150-kV Castelnuovo di Conza electric station and the 150-kV Scampitella electric station in Campania, functional for the connection of renewable-energy plants under construction
- the 150-kV Villafrati electric station in Sicily, which is functional for the connection of renewable-energy plants under construction.

Overall, in 2010 Terna increased its transformation capacity by about 2,000 MVA and put more than 495 km of new HV and EHV lines into operation.

Main works authorized during 2010

During 2010 Terna obtained authorization for a number of important works, including:

- the first part of works connected with the 220-kV rationalization of the city of Turin
- the 380-kV "Turin-Lacchiarella" line between Piemonte and Lombardy
- part of the works regarding the 220-kV rationalization of the city of Milan
- parte the works regarding the 220-kV reorganization of the city of Naples
- the 380-kV double-triad "Sorgente-Rizziconi" line that will connect Calabria with Sicily: 380-kV overhead "Sorgente-Villafranca T." and "Scilla-Rizziconi" sections.

Main works at the authorization stage

During 2010 Terna began the authorization process for a number of important works, including:

- the new 380-kV cable line between the 380-kV Paternò electric station and the new Priolo station in Sicily (see the box on page 109)
- the second part of works regarding the rationalization of the city of Turin
- a significant part of works regarding the reorganization of the metropolitan grid of Rome.

EU6

The Insula Project: a network to unite the Italian mainland with its islands

Inauguration of the SA.PE.I., March 17, 2011. In the photos are Terna's Chief Executive Officer, Flavio Cattaneo (on the left), the Minister of Economic Development, Paolo Romani (in the middle), and Terna's Chairman, Luigi Roth (on the right).

The SA.PE.I. constitutes the first element of the "Insula Project", the network of underwater connections provided for by Terna's Development Plan for the purpose of uniting the Italian peninsula with the country's main islands: not only Sardinia, but Sicily, Elba, Capri, and Ischia as well. The total investment amounts to more than 1.4 billion euro.
The Insula Project aims to make the electric system of the islands more secure and efficient through a network of technologically sophisticated submarine ring cables similar to the mesh of the overhead-line networks on land. In addition to the SA.PE.I., the following works are included in the Insula Project: the "Sorgente-Rizziconi" power line between Sicily and Calabria, the connections with Elba and islands of Campania, and the SA.CO.I. linking Sardinia, Corsica, and the Italian Peninsula.

Connection between Calabria and Sicily (Sorgente-Rizziconi)

Currently under construction, the work will unite Sicily and Calabria through a 105-km connection – including a 38-km 380-kV alternating-current submarine cable, the longest in the world – between Sorgente (Messina province) and Rizziconi (Reggio Calabria province). The line will improve the quality and security of the Sicilian electric grid, which is very old and is poorly interconnected with the rest of Italy. Once it is completed, the work will also have positive repercussions on the environment. Against the construction of 82 km of new electric lines in the provinces of Messina and Reggio Calabria, 67 km of existing overhead lines will be buried and 170 km will be demolished.

Sardinia-Corsica-Italian mainland (SA.CO.I. 3)

The SA.CO.I. 3 is an underwater connection uniting Tuscany with Sardinia via Corsica Terna plans to construct to upgrade the current connection, which dates from 1967. The upgrading of the 318-km-long cable (272 km of which are underwater) will enable Sardinia's production capacity from renewable sources to be used optimally and the island's electric system to be made more secure.

An electric ring for the islands of Campania

Terna plans to invest about 130 million euro to construct a network of submarine cable comprising a total of 90 km, which will connect the islands of Capri and Ischia with each other and both of them with the Italian mainland. The first section of the ring – between Torre Annunziata and Capri and about 30 km long – is at the authorization stage.
The purpose of the work is to make the electricity system of the islands more secure. Because the local systems of electricity production currently available are not very reliable and there is no connection with the mainland grid, the islands are at risk of blackouts, especially during the summer.

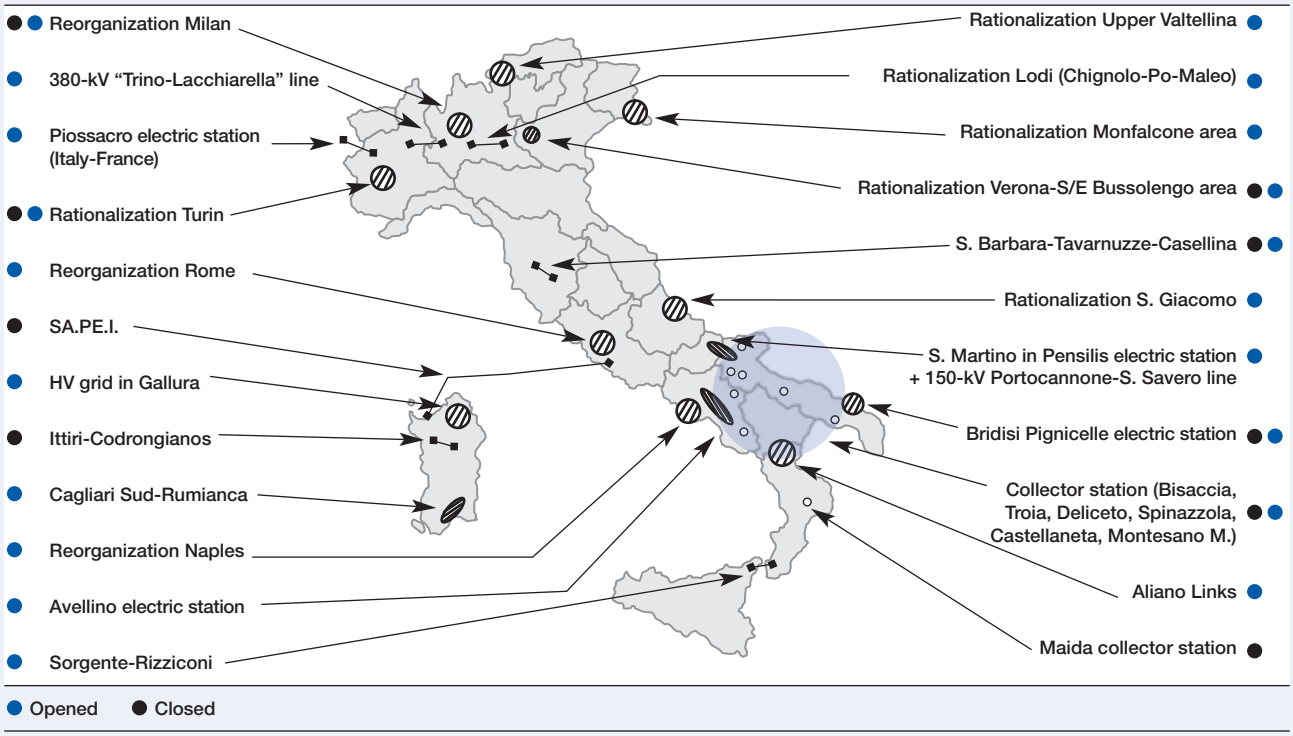
Connection between Elba and the Italian mainland

An underwater 132-kV electric cable between Piombino and Porto Ferraio will connect the island of Elba with the mainland. Currently at the authorization stage, the power line will be about 39 km long, of which 33 will be underwater and 6 will be in underground cable.
The connection will allow the island's electricity service to be managed securely, ensuring a larger reserve of energy, especially during the summer, when the island's energy requirement climbs to 40 MW. In addition to the construction of the submarine connection, Terna's project provides for the upgrading of the existing 132-kV S. Giuseppe-Porto Ferraio line, on which work is already in progress.

Main construction sites open

During 2010 the Company started work on the construction of the 380-kV "Sorgente-Rizziconi" connection, which will upgrade the interconnection of Sicily and the mainland through the Strait of Messina (see the box entitled "The Insula Project: a network to unite the Italian mainland with its islands").
The following map shows the main construction sites opened by Terna.
Following an approach based on the utmost transparency towards its stakeholders, the Company developed a new web platform, which since March 2011 has made it possible to visualize online up-to-date information on the progress made on the works included in the Development Plan (see the box entitled "Terna Construction Sites for Italy online").

MAIN CONSTRUCTION SITES OPENED AND CLOSED IN 2010



Terna Construction Sites for Italy online

Terna created the new "Terna Construction Sites for Italy" website, a new interactive monitoring platform, which – for the first time in Italy – transparently informs the public, institutions, media, and stakeholders on the progress of large electric-infrastructure works, both those that are already under construction or have at least been authorized and those that have been held up by bureaucratic delays. The new website consists of more than 250 pages using the FLASH and HTL technologies; 20 dynamic pages on delayed works, works at the consultation stage, construction sites open, and works completed for every Region; over 200 pages of in-depth information on the single works; 21 technical info sheets with maps and details regarding electric power lines; a dynamic database with double cross-referenced data search and a search engine for punctual content updating.

Located conspicuously on the home page of the corporate website (www.terna.it), the banner leads directly to the new "Terna Construction Sites for Italy" section. From there users can flash-browse Italy, entering every region with a simple click and visualizing all the details in mouse-over mode, from the macro-zones to the highest level of detail. A constantly updated database is accessible thanks to a small internal search engine. In this way it is possible to visualize a printable list of construction sites with the "where, how, and why" of works that are strategic for Italy's electricity system and are part of the essential infrastructure planned to eliminate congestion on the national transmission grid, thereby improving service quality and supply security.

The "Construction Site Map" section uses a traffic-light analogy to graphically and intuitively show the works in the four stages of the process: Red Light (works whose authorization has been delayed), Yellow Light (works in the consultation stage), Green Light (works under construction), and Tricolor Flag (completed works). Here, too, it is easy to surf. Clicking on one of these colored buttons enables the user to visualize all the works in the selected stage, while clicking on a specific work visualizes a detailed info sheet that summarizes its electric, economic, and environmental benefits, as well as the related investment and state of progress.

Connecting new plants

Terna is obliged to connect to the Grid all potential users that so request and identify the connection solutions that minimize the impact on the environment and local communities of new grid infrastructure, while at the same time offering the user an economically sustainable connection scheme. In particular, it is entrusted with providing a high-voltage connection to the National Transmission Grid for plants with 10 MW of power or more. Access to the grid infrastructure is regulated by the Electricity and Gas Authority (AEEG). Current regulations govern many stages of the process of accessing the grid infrastructure by establishing both the schedule and procedures for the actions that regard Terna and the discretionary margins, such as how long it takes to process the request, as well as the average time and cost of constructing connections, which are formalized and published by Terna.
During 2010, Terna received more than 1,100 new connection requests, of which 98% regarded renewable-energy plants, which when added to those received previously raised the total to over 3,400 dossiers being processed at the beginning of 2011. Among these there were:

- about 2,400 with an accepted estimate (not yet authorized), including 2,200 regarding renewable-energy production plants
- about 90 dossiers regarding authorized initiatives, including 80 for renewable-energy plants.

In accordance with provisions of AEEG resolutions, Terna has also created an IT system to manage the requests for connection, which makes the process transparent and traceable, as well as making more information available to the counterparty (see the box entitled “The new My Terna portal is born” on page 101).
During 2010, Terna completed the main grid works to connect:

- 2 production plants that run on conventional sources
- 15 production plants that run on renewable sources.

With regard to this subject, see also the section “Connection of renewable-energy plants” on page 128.

EU23

ENTSO-E: coordination among European grid operators

In advance with respect to the obligations of EU Regulation n. 714/2009 and voluntarily, on July 1, 2009 the ENTSO-E (European Network Transmission System Operators for Energy) association was founded. The association assembles all the European Transmission System Operators (TSO) and replaces the pre-existing international associations of these companies. The ENTSO-E consists of 41 TSOs from 34 European countries and comprises a Market Committee (MC), System Operation Committee (SOC), System Development Committee (SDC), and Research and Development Committee (RDC), created on September 28, 2010, as well as a Legal/Regulatory Group and related working groups and regional groups. The organization’s activities are aimed at promoting the completion and functioning of the internal electricity market and cross-border trade, as well as ensuring the coordinated management and the development of the European transmission grid.

The tasks of the ENTSO-E include the formulation of market grid codes on cross-border and market-integration questions, with particular regard to:

- grid security and reliability, including the aspects regarding its transmission capacity and operating reserve
- third-party connection and access to the transmission grid
- data exchange
- grid interoperability
- emergency operating procedures
- transport capacity assignment and congestion management
- balancing rules

- transparency rules
- harmonization of rates and inter-TSO compensation
- grid energy efficiency.

With the cooperation of the European TSOs, the ENTSO-E prepared the first Ten-Year Network Development Plan - TYNDP). The aforesaid EU Regulation states that the TYNDP is non-binding and requires the ENTSO-E to prepare this ten-year development plan every two years. The first edition of the TYNDP presents a proposal for investment necessary to develop the electricity transmission infrastructure in the 34 European countries. It contains 500 development projects that entail investment totaling from 23 to 28 billion euro in the next five years and are indispensable for achieving the EU objective of increasing the use of energy from renewable sources to 20% of total energy consumption, improving cross-border trade, and contributing to the internal electricity market, while ensuring supply security and system reliability in an increasingly complex and integrated grid that connects 525 million European citizens.
Terna has about 40 representatives in the organization.

Plant maintenance

EU6

Plant maintenance is essential for ensuring service quality and continuity.
To ensure that plants can be identified immediately, especially in the event of malfunctions, as well as reached as quickly as possible, Terna uses a handheld medium integrated with a navigation system that shows all the plants superimposed on a geo-referred map.

The main actions performed in 2010 with regard to electric stations and lines were the following:

Plant monitoring and inspection: in addition to the checks prescribed by the law, Terna:
- performed about 11,400 periodical technical and surveillance checks on stations at the different voltage levels
- inspected about 91,000 km of three-phase circuits with on-site checks, including about 4,100 km by helicopter, amounting to about 2 inspections of the grid a year and
- carried out 24,300 instrumental checks of lines, using thermal cameras to identify hot points and DayCor UV cameras to pinpoint the corona effect on insulators and conductors.

Ordinary maintenance: Terna identifies the work to be done on the basis of deterioration signaled by the integrated remote-management system, online sensors, and plant monitoring. Since 2005 it has also used an expert system to assist line and station maintenance called MBI (Maintenance and Business Intelligence), which enables the Company to optimize its maintenance work.

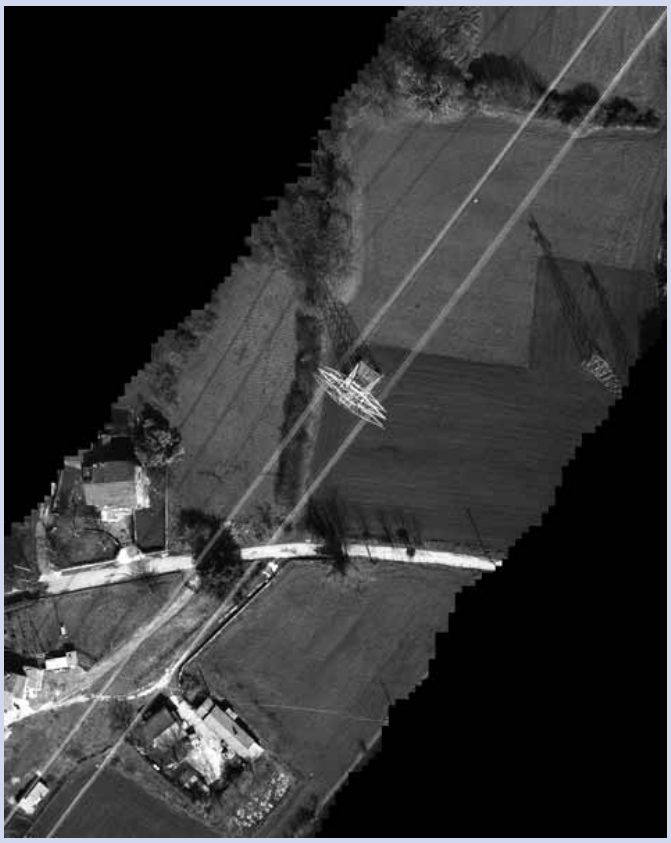
Controlling vegetation: The proper operation of lines also requires continual monitoring to assess the growth of vegetation in order to prevent the latter from getting too close to the conductors and the consequent risk of short circuits and line interruption. Vegetation control normally consists in cutting it down to the ground or – if there are particular environmental restrictions – in branch removal aimed at keeping trees at a safe distance. Herbicides are never used.
During 2010 vegetation was cut along 12,200 km of electric lines.

EN12

Work on live wires: Maintenance work on live wires was performed about 2,200 times.
Performed with the line in operation, such work increases plant availability and contributes to the improvement of service quality and continuity.

Special maintenance: During 2010 Terna reconstructed 24 km of 220-kV lines and 27 km of 132-/150-kV lines.

Line inspection by helicopter: the LIDAR project



Aerial view simulating the images that can be collected by the passage of a helicopter over the lines.

In the second half of 2010, Terna started the LIDAR (laser imaging detection and ranging) project, with the objective of creating a geo-referred platform of the National Transmission Grid thanks to the use of laser imaging by helicopter.

The project was implemented to respond to the ministerial decree of May 29, 2008 regarding electro-magnetic fields, which establishes the criteria for calculating the areas of limited safety along electric lines.

According to the provisions of the law, as the owner and operator of electric lines Terna is obliged to provide the Municipalities, Regions, and other institutions entrusted with the inspections with a series of data characterizing the lines, such as, for example, the geographical coordinates and heights of the towers, the spatial position of the conductors, approximate distances, and the limited-safety areas.

For its latest-generation lines, Terna already had this information, while for its non-standard lines or ones with inadequate or obsolete mapping it had to develop a project to obtain the data quickly. Therefore, the Company decided to use the laser technology developed by the military to "photograph" the lines quickly and in detail by installing the required devices on a helicopter.

With the data acquired and the software developed it was already possible in 2010 and as part of the project to partially try out a new method of inspecting high-voltage lines using helicopters. The laser technology made it possible in this first phase not only to create an up-to-date database for the HV grid, but also to survey thoroughly the position of the main elements, such as buildings, vegetation, and roads, with respect to the electric lines. In particular, it was possible to measure the distance of each element from the conductors, which had been possible previously only with targeted surveys.

Beginning in 2012, the objective will be to establish the procedures for acquiring – automatically and with a single helicopter flight – all the abnormalities, which can be seen currently only through a combination of inspections on foot and precise instrumental checks.

In cooperation with the University of Florence, a new experimental method is currently being developed for the automatic analysis of high-resolution pictures regarding the components of HV lines for the purpose of rapidly pinpointing abnormalities and critical situations.

Together with the laser and the instruments already used by Terna for thermal and UV imaging, this new technology will enable the Company to acquire a complete picture of the state of its lines and thus optimize its resources for increasingly prompt and targeted remedial actions.

A new method of cleaning insulators

In areas characterized by various kinds of pollution – saline, agricultural, or industrial, just to mention a few – even the chains of insulators located along the lines need to be cleaned more or less frequently to ensure their proper functioning and the consequent security of the entire electricity system.
This activity is not easy to perform, not only from the technical point of view – the insulators being located at a considerable height – but also because the work has to be done without affecting service continuity.
Until now, de-mineralized water was often used for this job. During 2010 Terna tried out a new method for dry-cleaning the insulators, spraying them with an effective and completely biodegradable granular mixture of ground walnut and peanut shells.
The choice of the mixture was the result of a number of trials in order to find the most suitable solution. In the end the Company chose one made of organic material that is non-polluting and environment-friendly.
This activity concerned simple-suspension insulation chains and was carried out on the 150-kV Bari Ovest-Triggiano line at the end of July to remove a layer of agricultural and marine pollution.

EU8 Engineering and innovation

To introduce new technological and plant-engineering solutions – new instruments and methods aimed at improving plant reliability and thus service quality – Terna uses mainly internal engineers, who base their work on careful monitoring and analysis of the behavior of equipment and plants, but also avails itself of the specialist assistance of builders and of cooperation with universities, ERSE (a new company doing research on the electricity system), and CESI S.p.A., a company providing specialist services, in which it holds a 39.9% equity interest.

Research on innovation and the development of new engineering solutions is organized in four categories.

Aim	Projects and progress made in 2010
STRUCTURE AND MATERIAL OPTIMIZATION	
Designing towers with less visual encumbrance and/or better environmental integration	**High-performance tubular single-pole towers** Finished the designing of high-performance towers for 150-kV lines. Started a feasibility study regarding high-performance towers for 380-kV lines. **International "Pylons of the Future" competition** Preliminary study begun on engineering of the winning pylon, designed by architect Hugh Dutton.
Upgrading the transmission capacity of existing lines	**Innovative, high-performance conductors** Installation of a new kind of conductor featuring a high temperature limit and reduced elongation, which are useful for resolving problems connected with distance from sensitive places such as schools, kindergartens, houses, and workplaces. In particular, experience with INVAR-ZTAL conductors consolidated. Research on additional solutions that use ceramic or carbon materials featuring high electric and mechanical performance, which are especially suitable for renovating lines without replacing pylons.
Rapid replacement of fallen towers	**Light towers to use as replacements** Acquisition of kits of rapidly installable temporary emergency towers, which are at the disposal of Terna's maintenance squads.
EQUIPMENT DIAGNOSTICS	
Early warning of abnormalities	**New sensors on equipment and machinery** In the Lacchiarella station, installation of the new sensors on the equipment and machinery of the 380-kV section was completed. Another kind is currently being installed on the 132-kV section. They will be closely observed for a period in view of their potentially widespread installation.

Aim	Projects and progress made in 2010
NEW EQUIPMENT	
Reduced space and time of electric station construction	**Integrated compact station equipment:** Terna introduced this new equipment, which performs several functions (switching, sectioning, and metering) within a single container, thus reducing the space occupied by station construction. By now the installation of this innovative equipment is routine in plants requiring greater compactness and more rapid construction.
Compact, rapidly installable stations	As part of the search for technical solutions to ensure that service will be quickly restored in the event of "disaster recovery", a 150-kV mobile station was designed and built. It is entirely mounted on three trucks that can be transported to the site of use without the need for special means of transportation. The mobile station was conceived to be quickly installed on 150-kV lines through connections with connector cables. Everything has been factory-tested (see the box on p. 81). Given the advantages of this solution, a 380-kV mobile station was also designed in 2010.
PLANT SAFETY	
Compact, rapidly instalable stations	**New power-transformer project** After recent serious malfunctions in large power transformers, Terna introduced a series of improvements aimed at increasing the intrinsic safety of the same. In particular, the Company will replace ceramic insulators with polymeric ones, which have the advantage of tolerating stress better and avoiding the projection of fragments in the event of faults. In addition, a series of measures will be taken to reinforce windings and cases, which will be tested by the "short-circuit trial" carried out for each kind of transformer. After the study to update the specifications in 2010 was completed, orders were assigned for the supply.

EU8

The Foster pole goes into operation

The 380-kV Casellina-S. Barbara-Tavernuzze power line, in Florence province.

On December 15, 2010 the 380-kV Casellina-S.Barbara-Tavernuzze line in Florence province, the only one in the world constructed using the pylons designed by the architect Sir Norman Foster, went into operation. The Foster poles are used in one stretch (towers 8 to 18) of the line. Terna worked for about a year at the same time to design the line and develop maintenance methods and tools never used before. The most sensitive stages were the last because of the particular design of this pylon: a slender pole with two arms raised towards the sky, whose triangle-shaped middle part is suspended in the air and, unlike normal pylons, does not allow maintenance equipment to be attached. With no similar pylons at its disposal, the Company created theoretical simulations and constructed similar poles in its Viverone training center. Personnel training will be an essential stage, during which maintenance work high off the ground will be simulated. Together with the help of hydraulic units never previously used, these will enable maintenance work, such as replacing insulators, to be done.

Rapidly installable stations

EU8

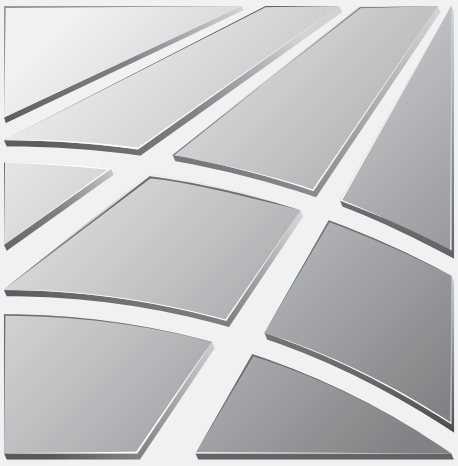
Rapidly Installable Connection Station in Aprilia.

The need to rapidly remedy the service following serious malfunctions of a 150-kV section of a station of the National Transmission Grid led Terna to design a mobile station that can be easily transported and installed in a short period of time to perform temporarily the functions of damaged grid components.
In less than a year, Terna developed the idea, engineering, and specifics of the new station, called “SCRI” (rapidly installable connection station) in Italian, and closely followed the construction of the first two exemplars as well. Featuring the use of innovative equipment, materials, and components, the station is assembled on two trucks which, because of their compactness, can travel freely on roads without having to follow the procedures adopted for exceptional transportation.
The new station can also be used to reduce the unavailability time during the renovation of plants and to connect generation plants while the definitive station is being constructed.
The SCRI was first used to connect a photovoltaic plant in Aprilia, going into regular service on December 21, 2010.

Miners

MOUNTING A PYLON, INSTALLING INSULATORS, STRETCHING THE CONDUCTORS, PERFORMING MAINTENANCE TASKS ON THE LINE… IT'S THE TRADE OF THE "WIREPULLER" THAT GIAMPIERO AND ADRIANO HAVE TAUGHT FATHER SERAFINO'S KIDS. NOW THEY HAVE A CONCRETE ALTERNATIVE TO BACK-BREAKING WORK MINING WOLFRAMITE, A MINERAL FROM WHICH TUNGSTEN IS EXTRACTED.

2010



Economic responsibility

Terna

Our approach

For Terna service objectives are integrated with those of economic performance. The synthesis of the two aspects lies in the search for operating efficiency and opportunities for growth, while fulfilling service obligations, in particular the security of the electricity system.
In Italy, Terna manages the transmission of electricity as a monopolist. Therefore, it cannot increase its business or revenue by enlarging its market share and pursues these objectives mainly by:

- promptly carrying out the investment provided for by the Grid Development Plan, which is at the same time useful for improving the electricity service for society and a source of corporate income
- seeking operating efficiency and optimizing its capital structure
- seeking business opportunities in industries other than transmission, such as the project for exploiting its assets by constructing photovoltaic plants on land adjacent to its electric stations – on which see the box entitled "Terna's photovoltaic project" – and other non-traditional ventures specified in the 2011-2015 Strategic Plan
- developing traditional unregulated activities, which consist mainly of services performed for other companies that own electricity networks, as well as telecommunication and consultancy services in the transmission industry
- acquiring new assets, in particular the residual segments of the National Transmission Grid not owned by the Company. This process concerned the three-year period 2006-2008 and received a strong boost in 2009 with the acquisition of Enel's high-voltage lines, now held by TELAT.

Other opportunities for growth lie in the expansion of activities abroad. After the sale of the Brazilian subsidiary Terna Participações in November 2009, the search for new investment possibilities in the transmission industry have focused on the Mediterranean South and the Balkans, where a number of projects regarding in particular the construction of interconnection lines are being developed.
For a detailed presentation of the economic and financial results achieved by the Group, see the Annual Reports available online at www.terna.it in the Investor Relations section, especially the 2010 Report. In any case, the main results of 2009 and the last three years are reported in this chapter in conjunction with the subject discussed. For example, the share and dividend performances are reported in the "Relations with shareholders" section, while the investments carried out are presented in the "Terna's economic impacts" section.
The first section presents a summary of the Strategic Plan, with the managerial policies and operating levers that will be activated to ensure continuity and improvement in the Group's economic results within a five-year time horizon. The following section, "Revenue and risk management", provides information on the different sources of Terna's revenue – with particular regard to the effects of the regulatory framework – and their respective relative weights, as well as the measures implemented by the Company to prevent and cope with the risks connected with its business.
The economic effects of Terna's business do not end with its financial results. The "Terna's economic impacts" section reports the most important qualitative and quantitative information connected with the Company's relationship with specific stakeholders. The most significant of these relationships are described in the final sections of the chapter, which also tell about Terna's commitment in developing initiatives and management instruments that are consistent with the prescriptions of its Code of Ethics. In particular, the following should be noted:

- the pursuit of transparency and communicative clarity in relations with shareholders
- the selection of suppliers conducted according to criteria of conformity with qualification requirements, including observance of the regulations regarding the environment and occupational safety;
- concern for the companies in the electricity industry, both in applying the principle of non-discrimination and beyond the obligations established by the regulatory Authority.

The Strategic Plan

Approved by the Company's Board of Directors, the Strategic Plan for the period 2011-2015 was presented in February 2011. The following items constitute a summary of it.

Traditional regulated activities

In the next five years Terna will invest about 5 billion euro to modernize the grid, an increase of 700 million euro, amounting to 15%, compared to the figure announced in the previous Plan (4.3 billion euro). The investment for development, for which an incentivized remuneration is provided for, constitutes about 82% of the total and increases from 3.3 billion euro to 4 billion euro. The increase in investment is reflected in the Company's regulated asset base (RAB), which grows from 9 billion euro to 12.4 billion euro at the end of the Plan, with an average annual increase of 6.6%. The investment provided for by the Plan on the regulated part amounts to an annual average of about one billion euro. In particular, the Plan includes the reorganization of the electricity grid in Italy's largest metropolitan areas: Milan, Turin, Genoa, Rome, Naples, and Palermo. In addition to these works there are the new electric stations for the collection and injection into the grid of renewable energy and the equipment for regulating the flows of electricity and the voltage.

Non-traditional activities

Terna is analyzing investment opportunities in non-traditional activities, leveraging the capabilities developed in managing large-scale works and its knowledge of the electricity market. The Plan triples the investment in such activities and provides for appropriations of up to one billion euro. In particular, during 2011 Terna plans to develop additional photovoltaic projects amounting to about 50 MWp. The Company will also examine investment opportunities in the field of energy efficiency and for the construction and management of infrastructure for connecting renewable-energy plants to the local grid in the Balkans. In the presence of appropriate regulation, the Company may consider investment in the field of energy storage, aimed at making the grid more secure and efficient in the areas that are most congested because of the presence of renewable-energy plants.

Improvement of margins

Increased revenue and cost containment will enable the Group to improve its profitability from the current 74% to 78% at the end of the period covered by the Plan. From 2011 to 2015, the average annual increase in Group regulated revenues will be about 6%, thanks to the increase in investment. In spite of the growth of investment, the costs regarding the regulated activities remain essentially stable.

Solidity of the financial structure

The cash absorption generated by the Investment Plan and the dividend policy will lead to an increase of 2.6 billion euro in net debt at the end of the Plan, which is lower than provided for in the previous Business Plan. The capital structure remains sound. During the period covered by the Plan, the ratio between the Company's debt and its regulated asset base (RAB) always stays under 60%. The conditions of the debt remain very competitive also because of the Group's excellent rating level.

Dividend policy confirmed

The 2011-2015 Strategic Plan confirms the Company's dividend policy. As with the sale of Terna Participações, part of the capital gain recorded with the sale of non-traditional businesses will support the aforesaid policy, which provides for a 4% annual increase, taking 2008 as the base year.

Revenue and risk management

Revenue structure and regulatory framework

In 2010 the Terna Group's revenue for continuing activities, without considering the photovoltaic project, amounted to 1,589 million euro. Most of this (about 93%) comes from activities subject to a remuneration established by the Electricity and Gas Authority (AEEG) and only 7% regards other activities, which consist mainly of the provision of services to other companies, such as maintenance work on the lines of other owners, telecommunication services, and consultancy activities in the transmission field.
In 2010 the Terna Group also recorded income for the construction, management, and maintenance of photovoltaic plants (on which see the "Terna's photovoltaic project" box on page 34). In particular, this activity generated about 503 million euro of income, essentially as the contractual payment for the construction of the photovoltaic plants as of December 31, 2010.

Regulated revenue

The Company's regulated revenue is generated by different rate components – the most important of which is the payment for transmission – paid to Terna by different categories of companies in the electricity industry (distributors, wholesalers) in proportion to the quantity of energy transported (withdrawn or dispatched) on the grid owned by Terna.
The AEEG determines annually the unit sum of the rate components on the basis of rules established at the beginning of every four-year regulatory period. The contributing factors are, on the one hand, Terna's recognized costs, including margins, and on the other, the volume of electric power transported. The cost components considered in the determination of transmission rates belong mainly to three categories:

- **remuneration of the RAB.** The value of the RAB (regulated asset base) is revalued annually on the basis of the Istat number on the change in the gross-fixed-investment deflator and updated on the basis of Terna's net investment. This investment is for both the construction of electric infrastructure (lines and stations) to renovate or develop the grid (work included in the Grid Development Plan) and the enhancement of managerial instruments (for example, IT systems or technologies to improve the security of the electric system). The RAB is remunerated by the AEEG at a rate of return linked to the market one, which was established 6.9% for the third regulatory period (2008-2011). This rate is increased by 2 or 3 percentage points for a limited number of years for categories of development investment that are considered to be of particular strategic importance. In 2010 remuneration of the RAB constituted about 44% of Terna's recognized costs.
- **depreciation and amortization.** Provision is made for the annual adjustment of the depreciation and amortization recorded because of the effect of new investment, divestments, the termination of the useful life of assets, and the revaluation based on the change in the deflator of gross fixed investment. It is estimated that the share of depreciation and amortization remuneration constitutes about 26% of the total costs recognized.
- **operating costs.** These are the costs regarding the activities of transmission, dispatching, and metering: in general, the costs of labor and the procurement of goods and services that do not constitute investment. The component covering these costs, which in 2010 amount to about one-third of the total costs recognized (AEEG data), is subject to a price-cap mechanism. It is revalued annually on the basis of inflation and reduced by an efficiency factor amounting to 2.3% for transmission activities and 1.1% for dispatching. At the end of the preceding regulatory periods the efficiency increase achieved exceeding the pre-established efficiency factor was divided equitably between Terna and end users in terms of rate reductions.

Once the unit sums of the different rate components have been established, Terna's revenue depends on actual consumption of electricity. In effect, because of the volume effect, it can turn out to be higher or lower than foreseen. The sharp business contraction that began in the second half of 2008 made the demand for energy more uncertain and led the AEEG, with its Resolution ARG/Elt 188/08, to introduce an optional mechanism to partially neutralize the volume effect for the remaining part of the regulatory period (2009-2011). Terna decided to agree to the mechanism, which provides for the AEEG to:

- supplement Terna's remuneration regarding the volume share exceeding an exemption of 0.5% if the final volume is smaller than the one used for the 2009 rates
- require Terna to return the increased earnings regarding the volume share exceeding an exemption of 0.5% if the final volume is larger than the one used for the 2009 rates.

With the activation of the mechanism ensuring the level of revenue recognized for the three-year period 2009-2011, it can be said that the transmission industry has gone from a price-cap regime, in which the revenue level also depends on the volume of energy transported on the NTG, to a revenue-cap one, in which the revenue level is in practice pre-established and can vary with respect to the one used to set the annual rates by only +/- 0.5%.

Pass-through items

To keep the electric system in a state of equilibrium, Terna S.p.A. has to regulate it. This involves transactions of buying and selling energy in particular on the Dispatching Service Market (DSM). Because the rules require that the economic balance of these transactions be zero for Terna, they are pass-through items that do not influence the net income in Terna's Income Statement. These items also include the remuneration that Terna receives from distributors and pays to the owners of segments that are part of the National Transmission Grid, including its subsidiary TELAT.
In 2010 Terna's pass-through revenues and expenses totaled 4,969 million euro (5,218 million in 2009). Valued by the application of specific rate payments, these items are regulated by Terna with the industry companies. An important pass-through item is the so-called uplift, a payment covering the net expenses incurred to procure resources on the DSM, which for 2010 amounted to about 1,153 million euro (about 981 million euro in 2009, about 2 billion euro in 2008). The uplift is included in the user's bill. Even if it does not influence Terna's profitability, pass-through revenue – among other things, because of its size – has important repercussions on its relationship with the industry companies with regard to the commercial and administrative management of contracts and receivable and payable billing.

Incentive schemes

The AEEG has introduced specific bonus and penalty schemes aimed at incentivizing service improvement, in both technical and economic terms. Implicit in the incentive mechanisms is the assumption that if the objectives are achieved, the benefit for the users of the service will be a multiple of the incentive paid to Terna. In particular, in 2010 incentived-based mechanisms were provided for:

- the quality of the transmission service. For the period 2008-2011, the AEEG's Resolution 341/07 established a framework of incentives and penalties linked to two indicators: the ENSR (relevant energy not supplied) and the NDU (number of outages per user), measured respectively nationwide and at the level of each AOT (transmission operating area). The bonus/penalty is calculated by multiplying a pre-established sum (15,000 euro per MWh in the case of the ENSR) by the difference between the actual value and the target value of the indicator net of an exempted range (+/-10% of the target value in the case of the ENSR and +/-5% in the case of the NDU). The benchmark levels were determined in 2008 and the first economic effects of the mechanisms regulating service quality were generated in 2010.
- improvement of forecasts regarding energy requirements and wind (applicable for the period 2008-2011).
- reduction of the volume of resources procured on the DSM. The mechanism was introduced by Resolution ARG/elt 213/09 also for the three-year period 2010-2012, with several differences with respect to the mechanism applied to 2009. The new one has a term of three years, with a differentiated unitary incentive for each year of the period, and does not provide for a bonus cap.
- acceleration of investment to develop the NTG. This mechanism was introduced by Resolution ARG/elt 87/10 and provides for a 3% additional incentive for the work in progress on development projects with the most value added for the electric system (elimination of congestion, increased transport capacity with other countries), which is conditional on the achievement of a series of milestones agreed on with the AEEG and, beginning in 2012, the application of a mechanism based on bonuses and penalties in the event development works go into operation ahead of or behind schedule.

The bonuses earned for achieving in 2010 the objectives established as part of the incentive schemes are included in Terna's total regulated revenue. In the case of the incentive for reducing the volume of resources procured on the MDS, Terna further improved its performance during 2010, reducing the volume of energy procured by about 41% compared to the 2009 volume. This result led to the payment of a bonus of about 160 million euro (40 million euro in 2009). Considering the three-year duration of the incentive mechanism and its characteristics, Terna recorded 77 million euro in its 2010 Financial Statements as the related fair value, taking into account the regulatory risks and those connected with the performance of the Electricity Market.

INCENTIVE MECHANISMS ACTIVATED IN 2010

Objective	Year introduced	Period applicable	Penalty-bonus range	2010 result
Quality of transmission service	2007 (Resolution 341/07)	2008-2010		Bonus 4.4 million euro
Improved forecasts of wind production	2007 (Resolution 351/07)	2008-2011	Penalty maximum 1.5 million euro Bonus maximum 3 million euro	Bonus 3.0 million euro
Improved forecasts of requirements	2007 (Resolution 351/07)	2008-2011	Penalty maximum 5 million euro Bonus maximum 5 million euro	Bonus 1.8 million euro
Reduced volume of resources procured on the MDS	2009 (Resolution 213/09)	2010-2012		Bonus 160 million euro (1)
Acceleration of investment to develop the NTG	2010 (Resolution 87/10)	2010-2011 as a trial, from 2012 definitively		Bonus 16.8 million euro

(1) Including 77 million euro recorded as 2010 revenue.

The cost of transmission on the final user's bill

In accordance with current regulations, much of Terna's recognized costs are billed to end customers of the electricity service by the distribution companies through the TRAS component. According to AEEG data, this component accounts for less than 3% of the average user's bill.

Risk management

The analysis, prevention, and management of risk regard the different aspects of the corporate activities. Terna's business is exposed to market and financial risks (regarding the interest rate, inflation, liquidity, and credit), risks connected with its financial requirements, operating risks connected with malfunctions of the grid, regulatory risks, and litigation risks. For a description of the procedures for preventing and managing such risks, see pages 77-79 of the 2010 Annual Report.
The following pages describe other aspects of risk, their relationship with Terna's activities, and the related measures for coping with them. The aspects considered are:

- risks and opportunities connected with climate change
- risks connected with the electricity market and the electricity system.

The coverage of several obligations connected with employee benefits is also described.

EC2

Risks and opportunities connected with climate change

Terna is a utility whose business is the transmission of electricity, i.e. the service of transporting electric power from producers to distributors, to whose networks end users are connected. Except for the development of the photovoltaic project (see the "Terna's photovoltaic project" box), the Company is not involved in any way in the generation of electricity, and thus is not subject to any obligation to reduce emissions or to any emission trading scheme.
Therefore, government intervention through taxation (e.g., a carbon tax) or regulation (emission-reduction targets, inclusion in emission-trading schemes) with direct consequences on Terna's business and financial performance are to be excluded.
Climate change does not constitute a threat for Terna as far as its foreseeable business prospects are concerned. On the contrary, the previously mentioned development of the photovoltaic project – which was made possible by, among other things, the legislation favorable to renewable energy sources that was a response to climate change – constitutes an example of the concrete business opportunities provided by the current scenario.
Nevertheless, Terna's management recognizes the increasing importance of climate change and has identified potential, albeit remote, risks and opportunities connected with the warming of the Earth and the reactions that it might cause in governments, as well as in the habits of consumers.
The potential repercussions on Terna's business regard the following aspects:

- The task of keeping injections and withdrawals of electricity on the transmission grid in balance, which Terna performs in Italy as the transmission system operator, becomes more difficult when the climate is extreme, for example – as has happened in the last few years – when water is scarce or the temperature is extremely high. In some areas of Italy, there is an increased probability of critical situations, which can entail the temporary disconnection of users and consequently cause the attention of the public authorities and the mass media to focus their attention on Terna. Such situations do not threaten the corporate accounts, but rather Terna's reputation. On the other hand, good management of critical situations constitutes an opportunity for Terna to consolidate its reputation as a reliable company.
- The general favor enjoyed by the development of renewable energy sources generates risks and opportunities for Terna, from which public opinion expects business conduct that is attentive to repercussions on the environment. New power

plants running on renewable energy with more than 10 MW of power must request Terna to connect them to the transmission grid. There have been numerous requests in the last few years. So far, Terna has issued connection solutions for plants that – if they were all constructed – could produce up to 130,000 MW, i.e. more than twice the power consumed in Italy at times of peak demand. After the connection solution was obtained from Terna, only some of these proposals have been developed into projects and initiated the authorization process. Sometimes there has been a time gap between the plant authorization and authorization of the connection work, which has now been resolved by the use of a single authorization process (see the box entitled "The benefits of the single authorization" on page 130). The investment in the transmission grid made necessary by the connection of renewable-energy plants is therefore already a source of revenue for Terna. Furthermore, as explained in detail in the chapter on environmental responsibility, investment to develop the grid also entails significant consequences in terms of emission reduction in the entire electric system (reduction of losses, improvement of the production mix, and connection of new renewable-energy plants). Terna's image can be enhanced by this positive role. The Company can also develop business opportunities regarding the long-term development of solar plants in Africa to satisfy European consumption, which requires the parallel development of infrastructure to interconnect the two continents.

- The increase in the production of energy from renewable sources – for which incentives are often provided by specific provisions of the law – requires Terna to prepare technical instruments that are appropriate for the new scenario. Because of its even sudden variability deriving from changes in the atmospheric conditions, wind production entails particular problems for the regulation of the system. Since 2008, an incentive scheme has been in place for the period 2008-2011 that assigns Terna bonuses or penalties on the basis of the Company's ability to correctly forecast wind production (maximum bonus: 3 million euro, maximum penalty: 1.5 million euro). In each year of the three-year period the scheme has generated a bonus of 3 million euro for Terna (the maximum obtainable) thanks to its improvement of the forecasts.
- The concern about climate change or the increase in the price of energy raw materials could lead to a reduction of the income elasticity of the demand for energy. All other things equal, the trend of energy conservation and the effort to improve energy efficiency could cause the growth of the demand for electricity – and thus for the transmission service – to be lower than it is currently. However, the rules adopted so far by the AEEG exclude the possibility that a reduction in the volume demand could lead to a significant reduction in Terna's revenue, even though the rate mechanism produces such revenue as the product of the rate per unit times the volume of electricity transported. In effect, in 2008 the AEEG introduced a mechanism that partially neutralizes the volume effect for the remainder of the regulatory period (2009-2011). With the activation of this mechanism ensuring the level of revenue recognized for the three-year period 2009-2011, it can be said that the transmission industry has in effect switched from a price-cap regime, in which revenue also depends on the volume of electricity transported on the NTG, to a revenue-cap one, in which revenue is in practice set ex ante and can vary with respect to the revenue used to establish the annual rates only by +/- 0,5% (see the "Revenue structure and regulatory framework" section in this chapter).

Risks connected with the electricity market and the electricity system

Terna procures the resources it needs to manage the national electricity system securely through the Dispatching Service Market. This activity is critical for the security of the electricity service and also has significant repercussions in economic terms (see the "Pass-through items" and "Incentive schemes" sections).

The analysis of the processes regarding the interaction of Terna with the electricity market and the related risks has enabled the Company to identify the risks with the highest probability and the greatest impact. A dedicated system, called SIMM (security index market monitor) has also been set up to constantly monitor such risks. This system enables the Company to follow the overall performance of the electricity market through several key indicators and to promptly pinpoint any deviations from pre-established benchmarks.

Terna also monitors the electricity-market data on behalf of the AEEG. The Risk Management Unit, which is part of Terna's Monitoring Department ("Integrated text on the monitoring of the wholesale electricity market and the dispatching service market", AEEG Resolution n. 115/08), must ensure impartiality, transparency, and security in acquiring and presenting information. For this purpose Terna created the TIMM data warehouse, with the objective of monitoring the magnitudes and indicators required by the AEEG. During 2010 the Company began the procedure for certifying the TIMM process according to the ISO 27001 standard (see the "Information security" section on page 65).

Its responsibility for making the national electric system work securely requires Terna to identify the related threats and vulnerabilities – for example, exogenous events or failure to observe the Grid Code – and to adopt appropriate mitigation measures. The state of the national electric system is monitored in numerous ways, such as:

- checks of the performance of the plants connected to the grid through the process of self-certification and the analysis of the related documentation
- inspections of the interruptible sites and checks on conformance with the technical requisites required by Terna
- inspections of production plants under construction in cooperation with the Ministry of Economic Development to monitor delays in commissioning such plants and at the same time checking the application of the Grid Code and the obligations of future production
- monitoring the design and construction of station defense systems and automation techniques.

EC3

Coverage of obligations connected with the employee benefits

There are no defined-benefit corporate pension plans in the Terna Group. In Italy the pension coverage provided by the public system, which originally was one of the highest in the OCSE countries, has been reduced by a series of reforms that began in the 1990s. Terna offers its employees defined-contribution supplementary pension coverage on a voluntary basis. Specifically, senior executives may enroll in the Fondenel pension fund (http://fondenel.previnet.it), which provides for contributions by both the executive and the Company. In both cases the amount varies according to the date of hiring and the date the executive first joined a supplementary pension plan. The other employees (blue-collar workers, white-collar workers, and junior executives) may enroll in the Fopen pension fund (http://www.fondopensionefopen.it). In addition to the pension plans, employees of Italian companies receive other defined-benefit payments, specifically:

- During their working life, all employees receive a contractual "loyalty bonus" when they reach their 25th and 35th year of employment at a company.
- When they terminate their employment they receive benefits that are owed all employees (TFR), senior executives hired or appointed by February 28, 1999 (allowance in lieu of notice), and blue- and white-collar workers and junior executives hired by July 24, 2001 (IMA).
- Senior executives are entitled to post-employment supplementary health care (ASEM).
- Employees hired by June 30, 1996 are granted reduced rates on the electricity consumed for household use (electricity discount).

The composition and changes of the TFR and other personnel funds as of December 31, 2010 are shown in the following table.

millions of euro	Dec. 31, 2009	Provision	Interest cost	Drawdowns and other movements	Dec. 31, 2010
Benefits owed during employment					
Loyalty bonus	4.9	0.0	0.2	-0.9	4.2
Total	**4.9**	**0.0**	**0.2**	**-0.9**	**4.2**
Benefits owed at termination of employment					
TFR bonus	71.5	11.0	2.6	-17.2	67.9
IMA bonus	7.3	0.4	0.2	-1.2	6.7
Allowance in lieu and similar benefits	3.3	0.0	0.1	-0.4	3.0
Total	**82.1**	**11.4**	**2.9**	**-18.8**	**77.6**
Post-employment benefits					
Electricity discount	26.7	1.4	1.5	-0.3	29.3
ASEM	11.4	0.0	0.3	-0.5	11.2
Total	**38.1**	**1.4**	**1.8**	**-0.8**	**40.5**
Total	**125.1**	**12.8**	**4.9**	**-20.5**	**122.3**

Amounting to 122.3 million euro as of December 31, 2010 (compared to 125.1 million euro as of December 31, 2009), the item recorded a 2.8 million euro decrease with respect to the previous year, attributable to the year's drawdowns (20.5 million euro), which were partially offset by the appropriations and the recording of the time-discounting expense of the period (a total of 17.7 million euro).

The following table breaks down the costs regarding liabilities for benefits to employees recorded in the Income Statement.

millions of euro	TFR	Allowance in lieu and similar benefits	IMA	Loyalty bonus	ASEM	Electricity discount	Total
December 31, 2009	**71.5**	**3.3**	**7.3**	**4.9**	**11.4**	**26.7**	**125.1**
Provision	11.0	0.0	0.4	0.0	0.0	1.4	12.8
Financial expense	2.6	0.1	0.2	0.2	0.3	1.5	4.9
Disbursements and transfers	-17.2	-0.4	-1.2	-0.9	-0.5	-0.3	-20.5
December 31, 2010	**67.9**	**3.0**	**6.7**	**4.2**	**11.2**	**29.3**	**122.3**

The following table shows the main assumptions used in the actuarial estimate of the liabilities for employee benefits.

Percentage values	2010	2009
Discount rate	4.1%	4.1%
Rate of increase of labor costs	2.0% - 4.0%	2.0% - 4.0%
Rate of increase of health-care costs	3.0%	3.0%

Terna's economic impact

Value added

EC1

In the period 2008-2010 the value added generated and distributed by the Group increased by 27.4% with regard to its continuing operations and 37.7% with the inclusion of value added of discontinued operations held for sale.
During the three-year period considered, the incidence on the total net value added of the remuneration of employees (on average 27%) and borrowed capital (on average 14%), as well as direct and indirect taxes (on average 21%), was essentially stable.
As a proportion of the total net value added, the remuneration of risk capital was essentially in line with 2008 (+0.3%) and recorded an increase of 2% if the result attributable to RTR and Valmontone – companies held for sale and sold in 2011 – is compared to the discounted total net value added.
Allocations to reserves recorded a significant increase (from about 1% to about 15%), considering the contribution to the 2010 result of the gain on the sale in 2011 of the aforesaid companies (net of the same, the incidence of the reserves on the value added would drop from about 1% to about 4%).

TERNA GROUP – VALUE-ADDED STATEMENT [1]

Values in euro	Financial period 2010	Financial period 2009	Financial period 2008
A. Turnover			
1. Revenue from sales and services	1,533,102,227	1,346,812,023	1,151,965,436
4. Other revenue and proceeds	56,077,819	43,379,376	43,855,562
Standard sales revenue	**1,589,180,046**	**1,390,191,399**	**1,195,820,998**
5. Non-standard sales revenue (Hour-rated work)	91,972,485	77,407,493	66,341,085
Total sales revenue	**1,681,152,531**	**1,467,598,892**	**1,262,162,083**
B. Costs Of Production			
6. Raw materials	38,433,650	31,236,973	25,247,177
7. Services	157,561,339	135,829,303	96,813,167
8. Leasing and rental expense	12,050,835	13,893,976	13,919,106
9. Provisions for risks	2,009,949	3,620,822	2,884,532
11.Other expense	12,824,885	26,422,832	13,987,619
Total intermediate cost of production	**222,880,658**	**211,003,906**	**152,851,601**
Standard gross value added	**1,458,271,873**	**1,256,594,986**	**1,109,310,482**
- Accessory revenue	107,370,164	91,961,322	205,896,415
- Accessory costs	83,607,472	86,900,793	181,802,080
12.Accessory balance	23,762,692	5,060,529	24,094,335
Gross net standard value added	**1,482,034,565**	**1,261,655,515**	**1,133,404,817**
Amortization intangible assets	45,118,232	54,832,235	24,624,733
Depreciation tangible assets	315,602,303	257,711,993	228,845,898
Net global value added	**1,121,314,030**	**949,111,287**	**879,934,186**
Value added of discontinued operations held for sale	**146,847,712**	**416,976,119**	**40,874,917**
Total net global value added	**1,268,161,742**	**1,366,087,406**	**920,809,103**
Non-subordinate personnel	1,621,627	2,063,354	1,582,934
Subordinate personnel, direct remuneration	214,860,807	182,908,901	202,907,779
Subordinate personnel, indirect remuneration	64,879,119	64,796,883	56,395,874
A. Remuneration of personnel	**281,361,553**	**249,769,138**	**260,886,587**
Direct taxes	245,250,301	192,150,648	174,623,989
Indirect taxes	6,620,414	5,579,516	4,814,421
B. Remuneration of government	**251,870,715**	**197,730,164**	**179,438,410**
Short-term loan expense	185,869	14,975	445,217
Interest on bank loans	80,378,970	89,763,459	36,059,258
Interest on bonds	40,810,758	57,855,170	102,567,782
C. Remuneration of borrowed capital	**121,375,597**	**147,633,604**	**139,072,257**
Dividends [2]	421,585,486	380,523,323	328,155,134
D. Remuneration of risk capital	**421,585,486**	**380,523,323**	**328,155,134**
Allocations to reserves	191,968,391	390,431,177	13,256,715
E. Remuneration of the Company	**191,968,391**	**390,431,177**	**13,256,715**
Total net global value added	**1,268,161,742**	**1,366,087,406**	**920,809,103**

(1) The sums regarding the creation and distribution of value added are taken from the Consolidated Financial Statements, which were prepared in accordance with the IFRS/IAS international accounting standards. Specifically, the Terna Group has used IFRS/IAS international accounting standards since 2005. It should be noted that, in preparing the Consolidated Financial Statements as of and for the year ended December 31, 2010, in accordance with IFRIC 12 – "Service Concession Arrangements", as from January 1, 2010, the Income Statement records the costs and revenues regarding dispatching as construction costs and revenues. Consequently, in the 2010 Consolidated Financial Statements and in the preparation of the 2010 Consolidated Value-added Statement, the comparative 2009 cost and revenue balances were likewise reclassified without any effect on, respectively, the Group's results and the total net value added. In preparing the present Consolidated Value-Added Statement, the 2010 balances regarding RTR and Valmontone Energia were reclassified under "Total net value added of discontinued operations held for sale", in line with their classification in the 2010 Financial Statements under "Net earnings for the year from discontinued operations held for sale" in accordance with the provisions of IFRS 5 - "Non-current assets held for sale and discontinued operations". For further details, see the Consolidated Financial Statements as of and for the year ended December 31, 2010, page 198. Therefore, the total net global value added represents the added value of continuing operations, i.e. of the Parent Company and its Italian subsidiaries (net global value added) and the value added of discontinued operations held for sale.

(2) The 2010 dividends regard the interim dividend distributed in November 2010 and the balance proposed by the Board of Directors on March 31, 2011. The 2009 dividends regard those distributed by Terna S.p.A. Of the 2008 dividends, 316.1 million euro regard those distributed by Terna S.p.A. and 12 million euro those distributed to third parties by Terna Participações.

Other economic effects

EC9

Terna's economic impact does not end with the creation and distribution of value added. One must also consider, **first of all, the economic repercussions of the electricity service**. Terna ensures over time a service of general interest and thus contributes to Italy's economic growth.
The Company's development of the electric grid is of particular importance. The development of interconnections between bordering countries makes it possible to import electric power at prices that are more competitive than those of domestic production, to have an additional power reserve, and to enjoy more competition in energy markets. The reduction of grid congestion improves the exploitation of generation resources for covering requirements and makes it possible to use the most competitive plants, with positive effects on competition in the generation segment and on end prices.
In accordance with the regulatory framework, all of Terna's investment in the development of the grid is examined from the technical and economic points of view by comparing the estimated cost of the work with the related benefits in terms of the reduction of the overall system expense in order to maximize the cost/benefit ratio. Consequently, every euro invested by Terna generates on average a multiple of savings for the users of the grid, as reflected ultimately on the end consumer. It is therefore significant that Terna's investment – most of which is to develop the grid – has constantly increased in the last few years.

INVESTMENT - ITALY	2010	2009	2008	2007	2006	2005
Millions of euro	1,161.7	900.4	764.9	606.0	345.5	263.5

In 2010 the number in the table regards only the Terna Group's core investment and does not include investment in photovoltaic energy, which amounted to 354 million euro.
As decreed in the Ministry of Economic Development's Directive of January 21, 2000, in determining possible investment in development the Company also pays the utmost attention to the need for improvement of the service in Southern Italy and other areas in which the electricity transmission system is less efficient in terms of reliability and continuity, among other things because in such areas the upgrading of the transmission grid can be decisive for social and economic development.
In 2010 public contributions to the plant account – recorded directly to reduce the value of the plants – amounted to 3,652,564.86 euro (5,843,139.83 euro in 2009). EC4

Another aspect to consider is the **creation of employment and the expense for procurement**. As of December 31, 2010 Terna had **3,468 employees**, of whom 930 worked in Rome at the corporate headquarters, the national grid control center (CNC), and the Rome transmission operating area (AOT). The other employees (about 2,500) were uniformly distributed throughout Italy at the 7 other local operating areas of Turin, Milan, Padua, Florence, Naples, Palermo, and Cagliari – under which 32 line operating groups (GOL) and 32 station operating groups (GOS) work – 8 distribution centers (CR), and 3 remote-control centers, which have offices all over the country. LA1
Through the construction and maintenance of power lines, in 2010 Terna indirectly determined the employment of labor by **contractors and subcontractors totaling the equivalent of 1,973 full-time employees**.

In 2010 the **economic value of Terna's procurement** of services, supplies, and works exceeded 1.3 billion euro. Most of these were purchased from Italian suppliers, although the share of foreign suppliers is growing. EC6
The predominance of Italian suppliers does not conflict with the Group's policy, which excludes selecting suppliers on the basis of their location, and is due to the need for fast maintenance work on plants to ensure the utmost security of the electric system. Furthermore, suppliers located nearby have more competitive costs regarding the transportation of heavy and bulky supplies.

Terna S.p.A. makes most of its purchases from companies that are qualified pursuant to EU directives or through EU-wide tenders. Italian companies constitute a large majority of those that apply and qualify. In any case, it should be noted that a significant share of the sum spent on local purchases actually regards Italian branches of internationally significant industrial groups such as ABB, Siemens, and Prysmian, which are predominant worldwide in the specific markets concerned.

The following table breaks down Terna's total procurement expenditure in the period 2008-2010.

PURCHASES FROM LOCAL AND FOREIGN SUPPLIERS AS PERCENTAGE OF TOTAL PROCUREMENT

	2010	2009	2008
Local suppliers	78%	82%	80%
Foreign suppliers	3%	1%	1%
Other suppliers (1)	18%	17%	19%

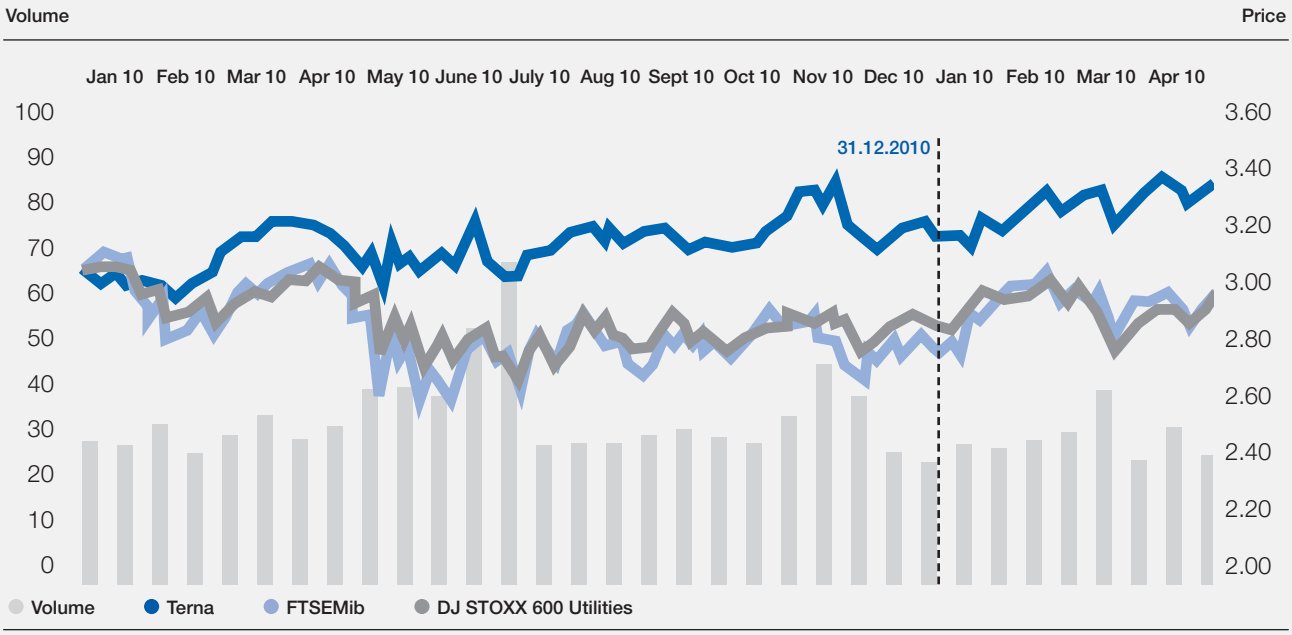
(1) Temporary associations of companies consisting of Italian and foreign suppliers.

Excluding purchases regarding non-traditional business activities (on which see the "Unregulated business activities" section on page 33), the share of local suppliers (72%) is lower and those of foreign ones (4%) and temporary associations of companies consisting of Italian and foreign suppliers (24%) are higher.
The concentration of procurement on local suppliers was also a common practice of the subsidiary Terna Participações (89% in 2008 and 98% in 2007)
Other economic impacts connected with the resources that Terna dedicates to the support of charitable initiatives and in the artistic and cultural fields are described in the section entitled "Community initiatives" on page 161.

Relations with shareholders

Share performance

In 2010 Terna's shares recorded a positive performance on the stock exchange, bucking the trend of both the average Italian blue chip and the average European utility. The shares gained 5.3% against a loss of 13.2% of the FTSE MIB and 8.4% of the DJ STOXX Utilities. In 2010 Terna was the only European utility to reach its all-time high, hitting 3.3925 euro per share in November.
During the year the performance of the shares was boosted by the Company's communication activity, which both in Italy and abroad presented to the financial community Terna's strategies for developing its business, important equity transactions (the agreement for the sale of Rete Rinnovabile S.r.l.), and results and dividends that exceeded market expectations.
Compared to 2009, the volume traded increased by 16%, amounting to an increase in total value traded (i.e. volume x price) of more than 41%.



Performance calculated with prices as of April 29, 2011

From its listing (June 23, 2004) to the end of 2010, Terna out-performed both the Italian market and the industry, with an appreciation of 85.9% (compared to FTSE-MIB 27.7% and DJ Stoxx Utilities +28%) and a total shareholder return of 171.8% (compared to FTSE-MIB -7% and DJ Stoxx Utilities +73.6%).
In the first quarter of 2011, the performance of the shares was boosted by a series of innovations: the presentation of the Strategic Plan, the 2010 results, and the sale of the photovoltaic project enabled the shares to out-perform the industry with a gain of 6.9%, compared to the 2.1% of the DJ Stoxx Utilities.
Furthermore, on April 4 the shares recorded their all-time high of 3.418 euro per share.

Total shareholder return

The most complete measure of the value created by a company for its shareholders is TSR (total shareholder return), which is calculated by adding the increase in the price of the shares in a given period of time and the effect of the dividends per share paid in the same period. The calculation of the TSR thus shows the annual rate of return for an investor who bought Terna shares on date X and sold them on date Y. This calculation considers all the dividends paid by the Company as of the ex-dividend date of the related coupon.
The Company's generous dividend policy boosted the TSR, which amounted to 12% in 2010. In the same period the returns of the Italian blue chips and the European utility indexes were negative (FTSE-MIB -10% and DJ Stoxx Utilities -3%).
The total return for a shareholder owning Terna shares at the end of 2010 was:

- from the IPO: 172% (FTSE MIB: -7%)
- from December 30, 2009: 12% (FTSE MIB: -10%).

DIVIDENDS DISTRIBUTED BY TERNA S.P.A. (1)

	Year	Ex-dividend date	Payment	Dividend (euro)
Interim dividend 2004	2004	October 18	October 21	0.045
Dividend balance 2004	2005	May 23	May 26	0.070
Interim dividend 2005	2005	November 21	November 24	0.050
Dividend balance 2005	2006	June 19	June 22	0.080
Interim dividend 2006	2006	November 20	November 23	0.053
Dividend balance 2006	2007	June 18	June 21	0.087
Interim dividend 2007	2007	November 19	November 22	0.056
Dividend balance 2007	2008	June 23	June 26	0.095
Interim dividend 2008	2008	November 24	November 27	0.0592
Dividend balance 2008	2009	June 22	June 25	0.0988
Interim dividend 2009	2009	November 23	November 26	0.07
Dividend balance 2009	2010	June 21	June 24	0.12
Interim dividend 2010	2010	November 22	November 25	0.08
Dividend balance 2010	2011	June 20	June 23	0.13

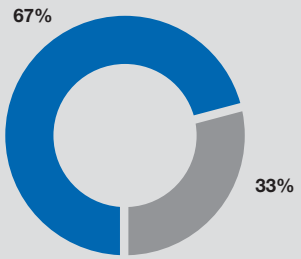
(1) Terna has adopted a policy providing for the payment of dividends twice a year.

Terna's concern for its shareholders

Terna's concern for its shareholders has enabled the Company to create a solid, enduring, and internally diversified shareholder base over the years. This shareholder base now includes more than 360 funds with a medium-long investment time horizon and more than 114,000 individual investors. The foreign institutional investors are located in 30 different countries, with North American ones being the most numerous (15% of the total). Thanks to frequent road shows, the weight of foreign shareholders in the Company's share capital is more than 30% (19% in 2005). Excluding the core shareholders (Cassa Depositi e Prestiti and Enel), foreign institutional investors slightly exceed the weight of Italian institutional and retail ones.
Socially responsible institutional investors have become increasingly significant. In effect, there are 97 such institutions in the shareholder register (compared to 32 in 2005) and their weight in the share capital has increased from 2% in 2005 to more than 14%.

TERNA'S SHAREHOLDER BASE

Institutional Italian shareholders	
CdP	29.86%
Enel	5.1%
Retail	26.3%
Institutional Investors	5.9%
Foreign institutional investors	
UK	6.7%
USA/Canada	5.6%
Europe (excluding UK)	14.3%
Other	6.2%
Total 100%	



Relations with suppliers

As stated in its Code of Ethics, Terna puts transparency and fairness first in its relations with suppliers (2,316 contracted in 2010). Suppliers that satisfy conditions of non-involvement in illegal activities, observance of safety standards, respect for human rights, and organizational and professional solidity are welcomed to compete on quality and price as equals. Procurement is normally carried out on the basis of the outcome of **tenders** that ensure equal opportunity and the utmost transparency to the participating companies. The objective of purchasing at the lowest cost for the level of quality and security required is always integrated with also checking the requisites of suppliers with regard to **ethical, social, and environmental aspects**.
In general, all procurement contracts include clauses regarding the supplier's commitment to observe Terna's Code of Ethics and its compliance program pursuant to Legislative Decree 231/01.
Since 2008 Terna has required suppliers to sign a specific "Integrity Agreement" obliging them to conform their behavior to the principles of honesty, transparency, and fairness and committing them to avoiding behaviors that could limit competition. HR2
Furthermore, implementing the Protocol of Understanding signed with the Finance Police – on which see the box entitled "Transparency on contract work" on page 100 – in 2010 Terna introduced in its procurement contracts a specific clause that obliges suppliers to provide the Company with detailed information regarding all its sub-contracts, with the objective of preventing the risk of criminal infiltration through contractors, hires, supplies, or other kinds of services for the construction of the infrastructure of the National Transmission Grid (NTG).
With regard to tenders, one of the criteria provided for in the selection of suppliers is the UNI EN ISO 9001 quality certification of 2008 as a guarantee of an efficient corporate managerial and organizational system. Terna also requires documented procedures adopted for the protection of the environment and of the health and safety of workers as a criterion in selecting

its contractors. As part of the revision of the contractual documentation carried out in 2010, contracts now include clauses to ensure the utmost protection of the personnel used by contractors, under pain of the rescission of the contract.
The most important areas for Terna's core business are supplies, contract work, and services regarding electricity transmission, telecommunications, and information technology. Only companies considered suitable on the basis of the **supplier qualification system** are included in the register of qualified companies and are allowed to take part in the tenders held by Terna for their respective product categories.
Scrupulous management of the ethical, social, and environmental aspects in keeping with Terna's policies is a condition for inclusion in the register of suppliers for companies that belong to the product categories subject to qualification.
In 2010, 48% of the suppliers with contracts amounting to more than 500,000 euro had gone through the qualification process, an increase over the 39% of the previous year.

The qualification process and the monitoring of suppliers

The qualification process enables Terna to assess suppliers with regard to their observance of the law, their technical, organizational, and economic solidity, and their conformance with the ethical, social, and environmental requirements of Terna's policy as expressed in the Company's Code of Ethics.
Among other things, the qualification requirements include:

- the application of conditions regarding rules and pay that are not inferior to those provided for by the collective-bargaining agreements applicable for the same kind of work
- the observance of laws regarding the protection of the environment and occupational safety
- the existence of documented procedures adopted for the protection of the environment and of the safety and health of workers.

The purpose of the monitoring is to ascertain whether the requisites required are maintained throughout the three years in which the qualification is valid.
Such monitoring includes the use of IT systems to continuously screen information such as, for example, reports by the Company's departments, external ones, or news reported by the media. In particular, the vendor rating info sheets written by the engineers who supervise locally the construction sites of qualified companies are used to analyze the latter's performances monthly, which enables Terna to promptly intervene and to disseminate the information recorded among its Operating Areas. During 2010 the Company monitored 593 supplier performances (compared to 263 in 2009), while – in keeping with the established objectives – the number of supplier categories subject to qualification increased (from 36 to 40), as did the number of companies qualified to be entered in the Company's supplier register.
In the event their behavior is not in keeping with the qualification requirements, suppliers may be warned or temporarily suspended from the supplier register. In the most serious cases, cancellation is provided for. Following an analysis of their noncompliance, in 2010 three suppliers were temporarily suspended and one was warned, while none were cancelled from the supplier register. The entire company qualification process – from the initial qualification to the monitoring of actual behavior and the infliction of sanctions – is entrusted to Terna's **Company Qualification Committee**, which consists of eleven members of the Top Management and an independent external Chairman with recognized legal and technical expertise.

QUALIFICATION	2010	2009	2008
Companies qualified for entry in supplier register	260	180	303
Supplier categories subject to qualification	40	36	36

PROCEDURES ADOPTED FOR AWARDING CONTRACTS (% OF VALUE OF AWARDS)	2010 (1)	2009	2008
European tenders	53	58	77
Non-European tenders	35	27	13
Without tender	12	15	10

(1) Excluding non-traditional business activities.

Contract work

Considering the use of external labor on Terna's construction sites (1,973 employees used by contractors and subcontractors), contract work is subject to stricter rules regarding qualification and subsequent management. This is due to Terna's particularly scrupulous approach, as well as to the strictness of regulations.
Italian law requires Terna to perform an analytical assessment of the risks regarding the health and safety of the workers employed by contractors and subcontractors for all the work done on the construction site. This risk analysis must be performed by an external expert. It should be emphasized that the consequent assessment of the cost of the safety measures to adopt is excluded from the price competition for the contract award.
With the objective of further reducing the risks regarding contract work, Terna requires additional specific certifications concerning contractor employees, such as: EU16

- certification that they know Italian, so as to ensure their access to information on construction-site safety EU18
- on sites for the construction of overhead electric power lines, certification that all the workers (mainly blue-collar ones) have examined and have been appropriately instructed on the use of the individual protection devices, the risks established in the Construction-site Safety Plan ("PSC") and the Operating Safety Plan ("POS") prepared by Terna, and the environmental-protection measures as established in the specific operating procedure called "Management of the environmental aspects during plant construction", which is attached to each contract
- for several specific roles (e.g. workers assigned to the installation and maintenance of overhead lines and to cutting vegetation, foremen, and safety heads), certification of specific training courses lasting between 24 and 32 hours designed – according to the content required by Terna – in cooperation with SINCERT-certified training schools specialized in the electricity industry
- verification of the actual training of the personnel through a web platform – the Qualified Company Personnel project – which records the actual training of the personnel of the companies doing contract work on Terna's construction sites by comparing the information provided by the schools authorized to train personnel for work in the electricity industry with the names of the employees registered by the companies
- the appointment of a person in charge of Health, Protection, and Prevention ("RSPP"), a head of construction-site safety, a person in charge of managing emergencies and his or her substitute, and an assigned doctor.

To reduce to a minimum the risk of violations of human and labor rights to the detriment of contractor employees' Terna also requires: HR2

- a declaration that the collective-bargaining labor agreement is applied to all employees LA4
- certification that all social-security and other contributions have been duly paid
- a copy of an insurance policy covering tort liability, personal injuries, and damage to property, including the contractor's, for the entire duration of the work and in an amount appropriate for the kind of work performed
- a periodical copy of the payment of social-security and other contributions
- certification by the competent doctor that the contractor's employees are fit for their jobs.

Monitoring has enabled Terna to identify the areas that are most exposed with regard to the question of occupational safety. For companies operating in these areas, in addition to the activities already described, there are provisions for assistance in interpreting the law and in communicating during safety training for workers.

In the two-year period 2009-2010, Terna monitored 100 sites throughout Italy entrusted to contractors for the construction of lines and stations for the transmission of electric power.
The construction sites were chosen with regard to the duration of the work, considering that work that lasts longer is probably more complex.

Improvement objectives

In Terna's procurement strategy, a continual improvement objective is to increase the number product categories subject to supplier qualification.
The objective is to further improve the method of analyzing the data monitored, on the one hand by increasing the number of checks and the parameters examined and on the other by disseminating the results and enabling them to be used more widely inside the Company.
Consistently with previous years and as part of the effort to continually improve, further emphasis will be placed on making construction-site workers more aware with regard to safety regulations.
As far as contract work is concerned, the objective is to increase the percentage of work done by qualified companies up to almost the total amount spent (net of the special contracts for work that is not normally part of Terna's business activities).

Transparency on contract work

In October 2010, the Commanding Officer of the Finance Police, Nino Di Paolo, and Terna's Chief Executive Officer, Flavio Cattaneo, initiated the operating stage of the Protocol, signed on November 30, 2009, for preventing the potential risks of criminal infiltration through companies performing contract work or furnishing supplies for the construction of grid infrastructure. In the first half of 2010 alone, of Terna implemented 147 contracts worth more than 250,000 euro, including 67 worth more than one million euro and 20 worth more than five million euro.
The cooperation with the Finance Police can count on a task force of about 100 Terna employees, who will insert data on the technological portal developed so the Finance Police can make the timeliest checks at every stage: from participation in a tender to the possible assignment of work to subcontractors. In the next 10 years Terna will invest 7 billion euro to develop the grid, a huge investment which exposes the Company to the risk of criminal infiltration. The assistance of the Finance Police will ensure the utmost transparency in the management of tenders for contract work or supplies thanks to the careful monitoring of the participating companies. Scrupulous monitoring of the companies invited to bid and of the tenders, as well as a careful examination of the names of people entering construction sites, will ensure an effective system.

Relations with companies using the electricity service

Terna mainly deals with companies operating in the electricity industry and belonging to one or more of the following categories:

- **owners of grid segments**, to which Terna must guarantee the right to connection in compliance with regulatory and technical provisions
- **dispatching users**, i.e. producers, end customers, or wholesalers with which Terna regulates the dispatching service
- **interruptible customers**, i.e. end customers of withdrawals that grant Terna the right to interrupt their load
- **distribution companies and owners of production plants.**

Relations between the industry companies and Terna are regulated mainly by the industry Authorities and are defined technically and commercially in the Grid Code.
In particular, with regard to the dispatching service, Terna regulates with the users of the injection dispatching service the economic items regarding the **procurement of the resources necessary to safeguard the security of the national electricity system**, thus maintaining the equilibrium between injections and withdrawals, as well as ensuring that grid parameters, such as the voltage and the frequency, are at their appropriate levels.
The economic items regarding procurement on the dispatching service market ("MSD") and imbalances for injection users are negative and in 2010 amounted to about 1.2 billion euro. With the users of both injection and withdrawal dispatching, Terna regulates the economic items regarding imbalances, understood as the difference between the plans the users presented on the electricity markets and the actual value of the electricity injected or withdrawn.
The economic items regarding imbalances for withdrawal users, including the invoicing of system charges, are positive and in 2010 amounted to about 2 billion euro.
During 2010 the Company developed **My Terna**, its new **Customer Relationship Management (CRM)** portal, which enables Terna to manage the most important interactions with the electricity companies in a single, integrated environment. (See the following box.)
My Terna will become the sole channel of access for all the services dedicated to the electricity companies. It includes a front office and a back office controlled with a single instrument and enables processes to be traced and the progress of paperwork to be monitored. The benefits are obvious: Customers are the key elements of the system, quality and efficiency are increased, and the risk of contradictions is decreased.

EU3 In 2010 Terna procured resources for the **interruptibility and instant-load-reduction services** aimed at making the functioning of the national electricity system secure in the event the resources procured on the market turned out to be insufficient. There were about 150 assignees of the interruptibility and instant-load-reduction services in 2010, with about 3,800 MW of power, and the related negative economic item amounted to about 640 million euro on an annual basis.

RELATIONSHIP WITH TERNA OF COMPANIES OPERATING IN THE ELECTRICITY INDUSTRY NUMBER OF COMPANIES [1]

Companies	2010	2009	2008
Interruptible users [2]	154	134	120
Distributors directly connected to the NTG	19	19	21
Injection dispatching users (Producers and Traders)	86	77	75
Withdrawal dispatching users (Traders and end customers, including the Single Buyer)	109	106	102

(1) The number regards the physical units located in Italy as of December each year.
(2) Beginning in 2010 these also include the assignees of the instant-withdrawal-reduction service.

The new My Terna portal is born

In 2010 an advanced platform was inaugurated. It was created to further improve the commercial relationship with the electricity companies through a Customer Relationship Management (CRM) system that manages the most important interactions in a single, integrated environment. It took more than a year of work to obtain a new IT environment, a single interface for a work instrument that aims to make communication between Terna and more than 7,000 companies in the electricity industry more effective and efficient. Access to the services dedicated to these companies will take place exclusively through the new portal.
My Terna was inaugurated after more than 1,000 trials, and a series of task forces with industry associations in parallel with Terna's own work groups participated in its construction. The different functionalities will be issued in several stages, with the idea of further improving the portal through already pinpointed possibilities based on its design as a single platform from which data and other information can be obtained and online services can be managed. The first functionalities to be issued were:

- **the management and updating of the company database** (It is possible to manage personal data and insert, modify, or eliminate contacts and establish the users who will be able to interact with Terna through the Portal.)
- **requests for connection to the NTG** (It is possible to request a new connection to Terna's grid and manage the request process, checking its progress all the way to the signing of the contract)
- **contract management** (It is possible to enter into new injection and withdrawal dispatching contracts and modify existing ones, managing the whole process and visualizing the progress of the paperwork)
- **management of contracts with Terna** (It is possible to communicate with Terna on specific subjects and check the state of the contacts via an e-ticketing service)
- **data visualization** (It is possible to consult the main personal, contractual, and invoicing data)

Through MyTerna it will also be possible to:

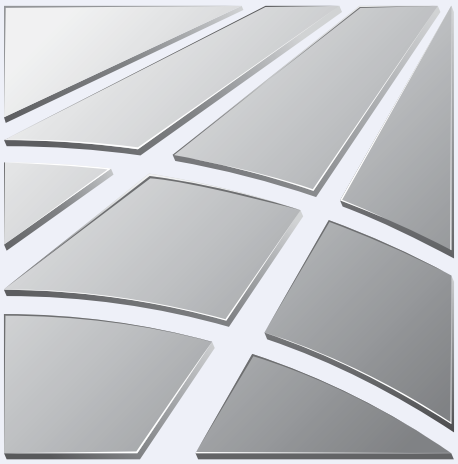
- **visualize the most important news** regarding Terna and the main links of interest identified by Terna to support its operations on the electricity market
- access a dedicated area in which viewers can **consult the most important documents** required in the management of the relationship with Terna.

During 2011 the MyTerna portal will be updated with new services and functionalities and enhanced in the sections dedicated to data and reporting visualization.

“Certainties”, detail

THE SQUAD OF 20 BOLIVIAN WORKERS HAVE LEARNED HOW TO MANAGE THE POWER STATION AND HAVE BUILT THE LINE. THEY COULD REPEAT THE SAME WORK AGAIN ANYWHERE NECESSARY, BEGINNING WITH THE FUTURE MAINTENANCE TASKS. FATHER SERAFINO’S PROJECT IS ALSO SUSTAINABLE FROM THE ENVIRONMENTAL POINT OF VIEW, BECAUSE KAMI’S HYDRO POWER IS CLEAN.

2010



Environmental responsibility

Terna

Our approach

For Terna, the search for the right balance between energy requirements and the safeguard of the environment and local communities means seeking appropriate solutions to ensure Italy the electricity it needs in the most reliable, economical, and environmentally-sustainable way.
Terna's business consists in providing the service of transmitting electric power, which is performed through the high-voltage electric grid. Therefore, from the environmental point of view the most obvious impact of this activity is not so much in the use of natural resources or the emission of polluting substances as in the **physical presence of electric lines and stations** and in their interaction with the surrounding natural and anthropic environment.
In the last few years, increasing environmental sensitivity and widespread local opposition to the construction of new infrastructure – a typical feature of many industrialized countries and certainly of Italy – have induced Terna to develop an approach that is very attentive to the environment and the needs of local communities. The way it has chosen for the construction of new line is **consultation with local institutions** (Regions, Provinces, Municipalities, park boards, etc.) in order to consider environmental needs from the earliest stages of planning and take the related details increasingly into account until the construction stage.
Respect for the environment and local communities constitutes the credentials with which Terna intends to establish a relationship based on trust with the national government (e.g., the relevant ministries and regulatory authorities) and local institutions, which are also empowered to authorize new infrastructure. In this way, the consideration of environmental issues converges with Terna's interest in investing in the development of the grid and the broader interest of society in the continuity, safety, and efficiency of the electricity service.
As far as the existing lines and their management are concerned, Terna's concern for the environmental impact of its activities is embodied in its Environmental Management System, which obtained **ISO 14001 certification** in December 2007. The certification regards all of Terna's activities and covers 100% of the transmission grid (stations and lines) and offices.
The following **significant environmental issues** should be noted in particular:
- the visual impact of stations and lines
- the impact of lines on biodiversity, with particular regard to birdlife
- special waste and its disposal
- the emission of electric and magnetic fields
- emissions of greenhouse gases.

Terna does not produce electricity, so the emission of greenhouse gases is not a feature of its activities, as shown by the fact that the Company **is not subject to obligations under the Kyoto Protocol** or to emission trading schemes. Our concern for emissions – which takes the form mainly of **controlling leakage of SF_6**, a gas that is present in station equipment, as well as controlling the emissions of the corporate vehicle fleet – is thus the result of a general sensitivity to the problem of climate change. It should therefore be noted that the investment included in the Grid Development Plan can have positive indirect effects on emission reduction by the national electricity system.
Terna has established an Environmental Policy, which expresses its commitment to practices to limit and reduce its environmental impact even beyond the limits imposed by law whenever this does not compromise the defense of the other general interests that Terna is obliged to ensure: the safety and continuity of the electricity service, keeping the electric system efficient, adapting the system to the country's production and consumption needs, and equal access to the grid for industry companies.
Among Terna's main commitments for the environment, the following should be noted:
- in the planning of investment to develop the grid, paying attention to the needs expressed by stakeholders (especially local institutions) and seeking agreement on solutions
- in the construction, management, and maintenance of the grid, adopting procedures in accordance with the provisions of the law and, whenever possible, reducing the environmental impact
- in relations with suppliers, requiring them to gradually adapt to the standards of respect for the environment adopted by Terna
- with regard to magnetic fields, strict compliance with regulations and attentiveness to the development of scientific studies, while contributing to the correct presentation and understanding of the phenomenon
- with regard to biodiversity, commitment to limit the impact of the grid, particularly on birdlife, and carry out mitigation actions, including programs agreed on with environmentalist associations
- with regard to climate change, recognition of the importance of the problem and commitment to actions that foster the reduction of greenhouse gases.

As far as improvement programs are concerned, Terna continues its commitment to reducing emissions, carrying out feasibility studies and projects regarding SF_6 leakage, the consumption of electricity by stations, and the corporate vehicle fleet, while – as shown by the agreements with the LIPU and the WWF – the continuation of cooperative projects with the

leading environmentalist associations will allow guidelines to be established for the environmental integration of electric power lines and mitigation instruments to be developed on a scientific basis.
In organizational terms, environmental responsibility is divided among several corporate departments, which participate on an Environment and Sustainability Steering Committee to coordinate activities and establish priorities and objectives to propose to the top management. The participating departments are: Operation Italy, Corporate Safety (which is in charge of the integrated Quality-Environment-Safety management system), Institutional Affairs, Organization and Human Resources, and External Relations and Communication. The Corporate Social Responsibility Unit acts as the secretary of the Committee.
Monitoring of the environmental indicators is entrusted to a permanent group of experts working within the framework of the Environmental Management system.
In the three-year period 2008-2010 there were no final administrative or judicial penalties, pecuniary or non-pecuniary, for non-compliance with laws or regulations regarding the environment. (Further information on environmental litigation is reported in section dedicated to the indicator tables and the "Disputes and litigation" section.) EN28 EN30
In 2010 a fire in a transformer in Calenzano (Florence province) caused oil to spill on the surrounding land. Following this event, 400 cubic meters of earth (from an area of 450 square meters) were promptly removed mechanically to avoid possible environmental damage. In 2009 and 2008, no significant spills of polluting liquids were recorded. EN23

Lines and local communities

SO1

The construction of new lines is a response to technical requirements of the electric system, such as the elimination of congestion and the risk of overload, as well as to the increased production and consumption of electricity that accompanies the economic growth of Italy or specific areas of the country. Terna includes the necessary new construction in its Grid Development Plan, which every year follows a complex process of authorization (see the "Integrated-planning Process" box). The development of the grid serves the general interests of society, but the environmental impact connected with the construction of new power lines is concentrated on the territory through which the route of the line passes. Furthermore, the population density of many parts of Italy and the artistic, cultural, and landscape value of many others increases the complexity of planning and the difficulty of implementing it. In response to these problems, Terna adopted an approach based on dialogue and consultation with local institutions to seek solutions that allow the local treasures and potential of the country's environmental and cultural heritage to be preserved.
The necessity of working on the existing lines is usually connected with the fact that many lines were constructed tens of years ago. The gradual urbanization of rural areas and the adoption of new regulations that change the parameters previously in effect with regard to the interaction between electric lines and the surrounding territory determine the need to update portions of the existing grid.

Consultation

EN26

In 2002, Terna created a completely new scenario regarding the construction of infrastructure in Italy. In the practice that had been followed until then, discussion with local institutions started only at the beginning of the authorization process, when the planning of the infrastructure was already at the execution stage. Environmental considerations were introduced at that stage through the Environmental Impact Assessment (EIA) procedure. This approach led to strong opposition by the local institutions involved and the related population, with the result that often changes in the original plan were required and the work suffered delays. In some cases, it was even impossible to find a feasible solution. EU19 EC8
Terna decided to **bring the discussion with local institutions forward to the strategic planning stage of the work** – the construction of new lines and stations – included in its Development Plan. The method used provides for early consultation with local government and other institutions at different levels (Regions, Provinces, and Municipalities), based on shared criteria for characterizing the territory and aimed at finding the **optimal location for the new installations**. The solutions arrived at in this way are ratified by the signing of specific agreements between Terna and the aforesaid governments. Ultimately, Terna's approach has entailed the voluntary development of a method of relating to local stakeholders modeled on the Strategic Environmental Assessment (SEA). At that time the subject of EC Directive 2001/42/EC, the SEA was to be adopted by Italian law only many years later – in 2007, with Legislative Decree 152/2006 – and with considerably less complex implications as far as relations with local institutions are concerned.

The choice of following the SEA method to construct a transparent, documented, repeatable, and participatory planning process was agreed on and developed by a national work group (the "SEA" Negotiating Table) formally instituted in 2005, in which the Ministry of the Environment, the Ministry of Cultural Assets and Activities, the Ministry of Economic Development, and the governments of the regions and the autonomous provinces participated. The group's work has been supplemented by the gradual signing of protocols of understanding and planning agreements with regional and local governments to formally establish the progress of the reciprocal commitments. Since 2002, Terna has signed agreements on the application of the SEA method with 18 Regions, including the Autonomous Province of Trento.

REGIONS THAT ARE SIGNATORIES OF THE PROTOCOL OF UNDERSTANDING - 2010

● Agreements signed

Over the years, the model based on the SEA has undergone significant changes, which have emerged from a complex and fruitful cooperation among the parties, and is currently organized into different levels of discussion, analysis, and assessment:

- **At the strategic level**, the reasons for developing the National Transmission Grid – i.e., the new work to plan in response to the problems identified – are presented.
- **At the structural level**, the process of finding agreement on where to locate the corridors begins. These are strips of land up to several kilometers wide that are suitable for hosting the planned work.
- **At the execution level**, possible alternative locations for the project infrastructure are identified inside the chosen corridor as belts of feasibility of the route, i.e. segments of land up to several hundreds of meters wide inside which the project's route can be developed.

EN26

Criteria of territorial characterization

As part of consultation with local institutions, one of the most effective instruments for selecting the alternatives with the least impact consists in agreeing on the ERPA location criteria (Exclusion, Repulsion, Problematicity, and Attraction).
The area in question is characterized according to criteria that express its greater or lesser suitability to host the different kinds of work. Working within the SEA group, Terna and the Regions agreed on a system of criteria based on four classes:

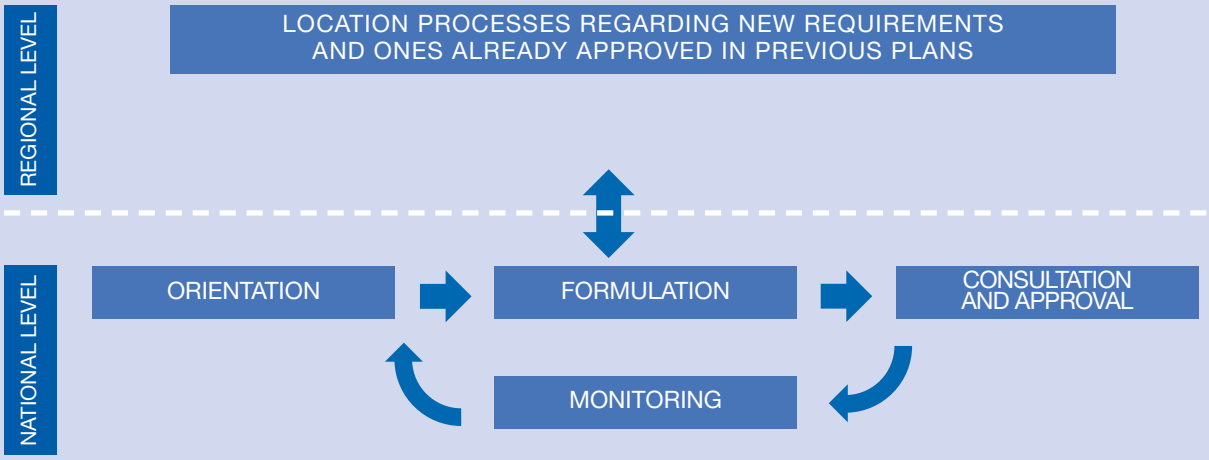
- **Exclusion:** areas in which any kind of construction is excluded
- **Repulsion:** areas where it is preferable not to construct, unless there is no alternative or there are only ones that are even less environmentally compatible, and in any case in compliance with the prescriptive framework agreed on
- **Problematicity:** areas in which the landscape is problematic for an objective reason documented by the bodies involved and that therefore require further territorial analysis to establish whether the level of problematicity can be overcome while observing the prescriptive framework agreed on with the aforesaid bodies or it is necessary to find alternatives. Unlike the other criteria, this one is characterized by the need for further study and the absence of an automatic mechanism of a priori assessment.
- **Attraction:** areas to favor whenever possible after checking the area's load capacity.

Every class of the ERPA criteria includes several categories. Currently, the Exclusion criterion includes the areas the law recognizes as to be excluded absolutely, such as airports and military zones, and areas the law does not directly exclude, but which are restricted by specific agreements beforehand between Terna and the bodies involved. For example, this category includes continuously urbanized areas, for which – in the light of law 36/2001, which introduced the concept of minimum distances to protect people from the effects of magnetic fields – it was agreed to adopt a criterion of maximum protection.
The Repulsion criterion includes areas that may be taken into consideration only in the absence of alternatives; protected natural areas, with regard to which specific agreements are made, and areas that are to be taken into consideration only if there are no alternatives that are more environmentally compatible.
The Attraction criterion includes areas with good landscape compatibility (A1) and areas that already host line infrastructure, such as infrastructure and energy corridors, in which the location of a new line – if it is compatible with the area's load capacity – is more sustainable than in new areas that do not have any line infrastructure.

The integrated planning process

S01

THE INTEGRATED PLANNING OF THE NTG



The diagram shows the integrated planning process Terna developed in agreement with the national "SEA Group". This process promotes the consultation approach developed over the years by Terna, which has harmonized it with the procedure required by the regulations in force.
By "integrated planning" is meant that **the activities of planning the electricity system are engaged in a constant dialogue with the activities of consultation**. Terna believes that in this way it can contribute to ensuring the sustainability of NTG development planning, because it concretely incorporates the environmental considerations that arise from its dialogue with local institutions in the planning itself.
The national level is the formal level of the SEA procedure as established by law, which provides for the preparation of an Environmental Report in which the effects that the implementation of the plan or program could have on the environment are identified, described, and assessed.
The different stages into which the national level is organized are those of orientation, formulation, consultation, approval, and monitoring of the Development Plan and the related Environmental Report, i.e. the documents that are formally and expressly required by the SEA procedure.
The regional level constitutes the concrete level of the "dialogue with local institutions", i.e. of the precautionary consultation that Terna, in accordance with the aims of the national SEA, has carried out since 2002 with regional and local governments to seek and agree on the most viable and sustainable solutions for the location of the infrastructure necessary for the development of the NTG.
Whenever agreements are reached with regional and local governments they are recorded in the Environmental Report. An essential aspect of the integrated planning process described above is the coordination between the two levels, leaving the appropriate decision-making autonomy to the regional level, which proceeds in any case according to the criteria and methods established by the national level.

EN26 Reducing environmental impact

To reduce the impact of electric lines on local communities and the environment, Terna can implement a series of solutions, which are described below.

Work to change the grid

Rationalization is complex work, which involves several grid components at the same time and often includes the dismantling of some grid segments and the construction of new lines.
Rationalization work consists mainly in:

- replacing plants with superior ones, such as, for example, introducing new 380-kV links to replace a larger number of lower-voltage lines
- eliminating parts of the grid whose usefulness is nil or negligible after the construction of new infrastructure constituting an upgrade
- integrating new grid components, for example stations, to avoid having to upgrade saturated lines.

When rationalization is possible, the construction of a new plant may lead to the reduction of the space occupied by electric lines, because of the removal of the old lines. Especially in the vicinity of cities, rationalization constitutes a solution to problems connected with the presence of electric infrastructure in areas that are being gradually urbanized. Overall, in the rationalization work provided for by the Development Plan infrastructure demolition greatly exceeds construction, with a net positive effect in terms of freeing the local communities from the presence of electric lines. The demolition of stretches of line made possible by the construction of new lines constitutes the most significant contribution in favor of the environment entailed by the development of the grid.

Laying cables underground eliminates or reduces the negative impact on the landscape that is typical of the overhead stretches of lines. For this reason, local institutions often request underground cables as their first option for the construction of new lines. Underground cables actually have a number of technical and economic drawbacks. They are less reliable over time than overhead lines and take much longer to repair in case of malfunction. For this reason they often do not ensure adequately the security of the electric system and service continuity. Furthermore, underground cables need appropriate roads when they are being installed and entail construction costs that are normally five to ten times higher than those of overhead lines.

Reclassification includes the upgrading of existing electric lines to a higher voltage through the construction of new lines and towers to replace the existing ones. This work may entail the replacement of the old towers by larger ones that occupy more space, as happens when, for example, a 130-kV line is upgraded to 220-kV. However, with respect to the construction of a new line, upgrading has the advantage of generally using already existing infrastructure corridors, thus avoiding the occupation of new portions of land.

Enhancement work aims – for example, by increasing the height of the supports – to reduce the exposure of the local population to magnetic fields (See in this regard the box on electric and magnetic fields: the limits prescribed by the law”). Upgrading can also include changing the corridor, while at the same time dismantling stretches near clusters of population.

Agreements with the regional government for the sustainable development of the electricity grid in Sicily

In July 2010, Terna's Chairman, Luigi Roth, and the regional councilman responsible for energy and public utility services, Pier Carmelo Russo, signed an agreement on the "feasibility belt" of the new 380-kV Paternò-Pantano-Priolo line between Catania and Siracusa provinces.
As the result of a choice agreed on with the Region and the local governments concerned by the route of the new infrastructure, this "belt" specifies the portion of the territory in which the new line will be constructed. For this work, Terna plans to invest 183 million euro, which constitutes about 20% of its total planned investment in Sicily.
The new line is 63 km long, with about 20 km of overhead links to the existing grid and about 31 km in underground cable. It crosses the territory of 2 provinces, 8 municipalities, and the protected area called "Oasi del Simeto". The new Pantano electric station, in Catania, will also be constructed.

There are numerous benefits for the area's electricity system:
- increased security of the service in the Catania and Siracusa areas
- a reduction of grid losses amounting to 30 GWh a year, with a system saving of 4 million euro a year thanks to its increased capacity to transport the energy injected by the new power plants under construction in the area
- an increase in the power available from the Priolo area because of the elimination of the restrictions on the operation of the power stations.

There are also considerable advantages from the environmental point of view. In effect, the new line will allow 155 km of obsolete overhead lines (including more than 15 km located on sites of EU interest) to be demolished, with the consequent clearing of 300 hectares of land and reclaiming of more than 6,000 tons of materials (steel, aluminum, glass, concrete). The municipalities and provinces will be given 8.5 million euro for environmental compensation work that they propose and carry out.

In February 2011, Chairman Luigi Roth also signed an agreement with the regional councilman responsible for energy and public utility services, Giosuè Marino, which strengthened the cooperation between Terna and Sicily's regional government on the sustainable development of the island's electricity grid.
The agreement provides in particular for intensifying efforts to agree on the best solutions for locations and speed up the processes regarding the authorization of the work planned by Terna for developing the island's grid.
To this end, the agreement provides for the establishment of a Regional Technical Negotiating Table, which will gradually involve the provincial and local governments as well as the regional one, each with regard it its authority and responsibility, with the goal of streamlining the authorization process and making it more efficient.
To modernize and enhance the grid from the viewpoint of sustainability and respect for local communities, Terna's Development Plan provides for work in Sicily that will cost over a billion euro of the 7.5 billion that will be spent nationwide. In addition to the new "Sorgente-Rizziconi" link between the island and Calabria, which is already under construction, and the new 380-kV "Paternò-Pantano-Priolo" line, the work includes:
- the 380-kV "Chiaramonte Gulfi-Ciminna" line
- the 380-kV "Sorgente-Ciminna" line
- the 380-kv "Partanna-Ciminna" line
- the 220-kV "Partinico-Fulgatore" line.

All together, the aforesaid work will increase the security, quality, and efficiency of the island's electric system for the benefit of both households and businesses.

EN26

Reducing encumbrance: tubular single-pole towers

Tubular towers constitute an important innovation for the construction of high- and extra-high-voltage lines. Their compact structure ensures minimum encumbrance – both visual and in terms of the amount of land occupied – and, in determined conditions of insertion in the landscape, constitutes a good alternative to traditional truncated pyramidal pylons.
In November 2010, Terna installed the first single-pole tubular towers of the new 380-kV Chignolo Po-Maleo line between Lodi and Pavia provinces. These are standard tubular towers, while special high-performance ones are being designed for the same line and are scheduled to be supplied by the end of 2011. The use on the new line of mainly single poles instead of traditional pylons will decrease the amount of land occupied by the line from 250 to 50 square meters, or only one-fifth of what it was. Terna also plans to use tubular towers on other large-scale projects, such as the 380-kV Sorgente-Rizziconi line, the 380-kV Turin-Lacchiarella line, and the 380-kV Udine Ovest-Redipuglia line.
During 2010 the designing and testing of the special tubular towers continued, while the designing of high-performance towers for 150-kV lines was concluded by load trials on 132-150-kV tubular towers at full draw at the Guasticce testing grounds, in Livorno province. The positive outcome ends the trial stage of the new 150-kV towers. The new series of towers with both simple and double 3-phase conductors will be fitted with traditional suspension chains instead of the current insulating brackets and will perform much better than the previous ones. Thanks to the suspension, corner, and terminal, it will be possible to construct an entire line from station to station with single-pole tubular towers without ever using traditional pylons.

Electric and magnetic fields: the legal limits

The main reference values for the emission of electric and magnetic fields currently provided for by the law (Prime Minister's Decree of July 8, 2003) are the following:

- exposure limits: in case of exposure to electric and magnetic fields at a frequency of 50 Hz generated by electric lines, the limit is 100 microteslas for magnetic induction and 5kV/m for the electric field, understood as effective values
- values of concern: as a precautionary measure of protection from possible long-term effects connected with exposure to magnetic fields generated at the grid frequency (50 Hz), in children's play areas, homes, schools, and places where people stay for at least four hours a day, the value of concern for magnetic induction is 10 microteslas, understood as the median value over 24 hours in normal conditions of operation
- quality objectives in planning new electric lines near children's play areas, homes, schools, and places where people stay at least four hours a day and in planning new settlements and areas such as the aforesaid in the vicinity of electric lines and installations already present: in order to gradually minimize exposure to electric and magnetic fields generated by electric lines operating at a frequency of 50 Hz, the quality objective is set at 3 microteslas for the value of magnetic induction, understood as the mean value over 24 hours in normal conditions of operation.

The values of the three parameters, and in particular the value of concern (10 microteslas) and the quality objective (3 microteslas) show that Italian legislation has adopted the precautionary principle expressed by article 15 of the Rio Principles. Observance of the law in its activities implicitly entails Terna's adoption of the same principle.

Measures adopted in the planning stage

Terna can reduce the impact of its electric lines on the landscape by identifying **routes in areas with good landscape compatibility and choosing towers that blend in well with the environment**. (See the "Reducing encumbrance: tubular single-pole towers" section). In the last few years Terna has increased the alternatives at its disposal, among other things by having internationally famous architects design new towers.
Similar considerations hold for the construction of electric stations. Stations have a much greater, albeit more circumscribed, impact. In some cases, Terna plans to plant masking trees.

Mitigation

With regard to existing plants, mitigation measures aim to **reduce their visibility and/or improve their integration in the surrounding area**. In particular, Terna devises masking systems for station fences, upgrades the buildings, and uses naturalistic engineering techniques. (For further examples, see the "Management of impacts on biodiversity" section.) These solutions also constitute the basis for developing criteria for the design of new plants.

Construction-site management

For the management of construction sites, Terna has equipped itself with operating instructions – "Management of environmental aspects during plant construction" – to ensure observance of the environmental policy adopted by the Company. It provides in particular for **the construction site and the new service roads to be located in areas of lesser vegetative value** (agricultural areas) whenever that is compatible with the technical requirements of the plan.
However, if the areas regard natural or semi-natural habitats, after the work has been completed, the area concerned must be environmentally restored to a condition that is as close as possible to what it was previously. Scheduling the stages of construction must take into account the vital needs of the species that are potentially affected and avoid the activities with the greatest impact during the periods when the species reproduce.
Furthermore, particular care must be taken in managing the waste produced on the construction site in accordance with the relevant regulations in force, such as avoiding spills and the temporary storage of polluting substances.
The available technologies are to be adopted to reduce noise produced by stations and the corona effect of electric lines.

Contract work

The operating instructions "Management of environmental aspects during plant construction" provide instructions for minimizing environmental impact along the supply chain.
The obligations regarding the environment that apply to contract work entrusted to other companies were established according to the provisions of the applicable environmental laws and prescriptions of the ISO14001 standard and include aspects such as: preventive measures against contamination of water table, the limitation of damage to vegetation, the management of accidents, minimization of air emissions and noise, vehicle use, and the correct management of waste and excavated land.

Biodiversity

EN26
EN12

Terna's plants are disseminated throughout Italy in a grid that extends for about 57,000 kilometers. The grid's relationship with the surrounding natural environment and its impact on biodiversity assume different characteristics during the construction of new lines and the operation of existing ones. **During the construction stage, the impact on biodiversity is connected with the activities on the work site**: the opening of passageways in order to erect the towers, excavation of the earth, and the removal of left-over materials. The construction of new lines and stations requires special attention if it takes place in the vicinity of or inside protected areas.

Once the line has been constructed, it has a two-fold relationship with biodiversity. On the one hand, **the route of the line can be a factor of growth for biodiversity** and protection for several species. For example, when lines cross large open areas or extensive areas of grain monoculture, the towers and their bases constitute "islands" of concentrated biodiversity. Tower bases – especially the larger ones that support high-voltage lines – are the only zones spared from intensive agriculture, with its working and transformation of the land. These are places where spontaneous grasses and brambles flourish in which wild rodents find shelter, because their den systems are not periodically destroyed by plowing. They are also places with concentrations of predators of the rodents, i.e. birds of prey. In effect, birds, especially rapacious ones, commonly use electric lines and their towers as both posts for observing the surrounding area and structures for nesting.

On the other hand, lines have potentially negative effects on biodiversity that regard birds in particular. The risk of electrocution should not concern Terna's lines, because it is connected with the narrow space between the typical wires of low- and medium-voltage lines, which can electrocute birds – especially large ones – that cross their route. However, high-voltage lines can entail the risk of collision. The actual occurrence of collisions depends on the density of the birdlife and the frequency with which birds of transit fly in the vicinity. The important factors in this regard are the routes of migratory bird – which are especially important in Italy, a bridge between Europe and Africa – the location of wetlands in the area, and the presence of protected areas, reserves, and parks.

EN11 Lines in protected areas

Considering the importance of the proximity of protected areas or in any case of natural interest for the risk of a negative impact by Terna's plants on birdlife, the interaction between lines and such areas is constantly monitored. Given the extension of the grid all over Italy, the main instrument for identifying the critical stretches of line is a complete territorial database with data from ministries and the Regions. These data were acquired through data-exchange protocols for the purpose of applying the SEA to the NTG Development Plan. The data collected were harmonized and inserted in a standard cartographic system at the national level. In addition to the location of electric lines, the main information contained in the data base regards geological, hydro-geological, naturalistic, and landscape aspects, including:

- degree of sismicity
- climate data
- polluted sites
- the official list of protected areas, fluvial parks, natural parks, reserves, terrestrial and marine national parks
- Sites of Community Importance (SCIs) and Special Protection Zones (SPZ)
- Important Bird Areas (IBA)
- landscape-risk map
- legislative restrictions and administrative boundaries.

After the georeferentiation of the about 18,500 km of new high-voltage lines acquired in 2009, in 2010 Terna repeated the inventory of the possible interference of its lines and protected areas or ones with a high level of biodiversity, combining the data regarding the electric grid with the environmental ones contained in the database through the most accredited GIS (Geographic Information System) instruments. Considering all the kinds of protected areas established by different laws (national and regional parks, national and regional reserves, SCIs – Sites of Community Importance, SPZ – Special Protection Zones, etc.) and eliminating overlaps, 9.7% of Terna's grid (about 5,469 km) crosses protected areas for stretches that range from a few hundred meters to several tens of kilometers. The controlled extension of the grid led to a reduction of almost two points in the percentage of stretches of line that interfere with protected areas with respect to 2007 (11.4%).
In all, net of overlaps, protected areas cover 22.3% of Italy's territory.

EN14 Management of impacts on biodiversity

Terna manages its impacts on biodiversity with a series of integrated instruments that consider such impacts right from the planning stage and, whenever necessary, the adoption of appropriate mitigation and compensation measures.
The approach is primarily preventive. Beginning in the planning stage, Terna considers **the need to preserve the environment by seeking solutions agreed on with local governments** regarding the location of its electric infrastructure. Like other environmental variables, biodiversity – and in particular the presence of protected areas – therefore constitutes an important input in the sustainability-based planning of grid development. The biodiversity features of the areas that could potentially host new infrastructure are carefully studied. The information collected becomes part of the criteria determining the final route and are available in the parts of the Environmental Report containing regional details that accompanies the Grid Development Plan.
This approach was confirmed in the protocol of understanding signed by Terna and the WWF (on which see the following box), which provides for, among other things, the incorporation of environmental criteria consistent with the WWF's conservation strategy in the planning of new lines.

EN13

Restoration and mitigation measures in WWF oases


ARCHIVIO WWF/R.MALAJOLI

Bird condominium

Terna celebrated the International Biodiversity Year by implementing the environmental restoration, mitigation, and compensation measures in the **WWF's Padule-Orti Bottagone** (Livorno province) and **Stagni di Focognano** (Florence province) **oases in Tuscany** and the **Torre Salsa** (Agrigento province) one in Sicily provided for by the three-year agreement with the WWF Italy signed in January 2009.

The decision to try out new solutions by borrowing the best practices of other countries put to work the best project designers with expertise in the fields of infrastructure and the management of protected areas to adapt the range of possible measures to the characteristics of Italy and the different local situations.

The measures implemented in the 3 oases range from actions to reduce the negative effects of the existing electric lines – such as, for example, the installation of special dissuaders and specific solutions for the protection of birdlife – to development of new instruments for monitoring and controlling the oases, as well as using them for educating visitors about nature.

In addition to projects in the oases, cooperation between the WWF and Terna provides for the development of **guidelines for planning the National Transmission Grid in areas of high environmental value**, as well as restoration measures in priority areas of eco-regional conservation.

In the "Padule-Orti Bottagone" Natural Reserve, Terna implemented measures to improve the area's potential in terms of monitoring the fauna and flora and optimize the logistic support of visitors, with the objective of demonstrating that even areas located in highly anthropic places – in this case, next to a thermal power plant – can have a strong natural identity that deserves protection and promotion.

Stagni di Focognano is an area in the immediate vicinity of the A1 expressway and a dump with its related composting system. It is crossed by two high-voltage electric lines with two towers installed directly in the pond and two others on the border of the oasis. Terna installed there anti-collision spires for birdlife on the guard cables and implemented a monitoring program that includes the installation of artificial nests and webcam to obtain more information on the birds that frequent the oasis.

In Sicily, the Terna-WWF project regarded the promotion of the Torre Salsa oasis through the improvement of activities such as nature tourism, as well as ones regarding education and scientific research to contribute to the mitigation of anthropic impacts and restore several precise conditions that have been altered.

In December 2010 a new agreement between Terna and the WWF was signed to implement the Action Plan for the Sustainability of the Development of the National Transmission Grid in the areas of high environmental value in the Pollino National Park (Calabria and Basilicata regions) and the Gran Sasso-Monti della Laga National Park (Abruzzo region), which are priority areas of eco-regional conservation. In both cases the enhancement actions are linked to the demolition of old electrical lines.

In spite of the measures adopted in the planning stage, there may be interference between a given infrastructure component and several species or habitats. To reduce such interference to a minimum, measures of environmental mitigation are adopted during both its construction and its operation. In the event such measures are not sufficient to reduce the interference to levels of little significance, environmental compensation measures are adopted, i.e. actions in areas near the electric lines.

The main **mitigation** and **compensation** measures involve:

- **environmental restoration** consisting in the construction of naturalistic engineering works to regulate the surface outflow of meteoric water and thus control the phenomenon of soil erosion;
- **reforestation**, through the planting of native species of trees and shrubs belonging to the vegetation of the area
- EU13 **turfing** by sowing seeds belonging to native species together with natural fertilizers and adhesives that help them take root. The use of native species prevents the phenomenon of floristic pollution via the introduction of species that are extraneous to the environment

- **compensation**, i.e. offsetting the cutting down of trees along the planned lines by planting trees of the same species in equivalent places. EN13

With regard to the species of flora and fauna potentially involved, see the 2010 Environmental Report, which is published in the "Electricity System" section of Terna's website.

During the construction of infrastructure the habitats and species of the flora and fauna concerned are monitored. This is to check the actual appropriateness of the mitigation and compensation measures adopted in order to constantly assess their effectiveness and, if necessary, to make corrections. Specifically, environmental analyses are performed before construction and the data obtained are then compared to those from samples taken subsequently in order to promptly identify the appearance of any signs of deterioration.

As far as existing lines are concerned, Terna has tried out systems of mitigation regarding in particular the interference between lines and birdlife, which are described in the following section.

Terna is also investigating the possibility of using the lines of the NTG to support environmental monitoring. In effect, the installation of specific sensors on line towers would enable the implementation of programs for environmental data collection agreed on with local governments and park agencies. In this way, furthermore, in addition to expanding the range of potential uses of its transmission infrastructure, Terna could make a significant contribution to the monitoring and management of biodiversity and the environment.

Lines and birdlife

EN14

Lines have potentially negative effects on birdlife. While the risk of electrocution characterizes low- and medium-voltage lines, Terna's high-voltage lines can be dangerous particularly for the risk of collision. This is why on stretches of line characterized by the frequent presence of birds of transit the Company has installed special devices called "dissuaders", which, with their encumbrance and the noise made when they are blown by the wind, make the lines easier to perceive by the birds in flight.

DISSUADERS FOR THE BIRDLIFE PRESENT ON THE NTG

	2010	2009
N. of lines concerned	37	30
Km of line concerned	159	146
Total n. of dissuaders	**8,917**	**8,845**

In 2008 **Terna signed an agreement with the LIPU** (the Italian partner of Birdlife International) **for a scientific study of the interaction between high-voltage lines and birds**. (See the following box.)
The project constituted an important opportunity to study for the first time, and on a large national scale, the actual interactions of birdlife with the high- and extra-high-voltage lines of the national transmission grid (NTG). In effect, the only studies available regarded the phenomenon of the electrocution of birds whose wings touch two wires at the same time, which is typical of low- and medium-voltages lines.
Terna has also been engaged for some time in trying out alternative uses of electric lines to the benefit of biodiversity, particularly the installation on towers of boxes for the nesting of birds of prey. Numerous studies have shown how electric lines constitute observation posts for raptors' hunting. They alight on the towers because of their height, as well as the protection they offer from their own predators.

In 2010, Terna continued to support the "**nests on towers**" initiative in cooperation with the Ornis Italica ornithological association, which during the last few years has led to the installation of more than 550 boxes – over 300 in Lazio, over 120 in Emilia Romagna, 80 in Lombardy, 30 in Puglia, and 14 in Umbria – suitable for the nesting of birdlife. Constant monitoring of the boxes by a group of researchers has led to the collection of numerous biological and ethological data and to evidence for a positive effect in terms of biodiversity. Among the main species that have occupied the nest boxes are the kestrel (a species of small falcons that have adapted to living in anthropic environments), the peregrine falcon, the scops owl, and the European roller. (See the box entitled "The European roller has chosen Terna's nests".)
The boxes installed on towers were monitored again during the 2010 reproductive season to collect data on reproduction. The nests were inspected from the middle of March on to ascertain if they were occupied, determine the size of the brood and the date of laying, and assess the extent to which reproduction was successful. Monitoring the nests installed enabled

25 kestrels to be ringed in Rome province before they started to fly and more than 100 newborn ones in Parma province. Overall, about 200 young birds took flight from nests on Terna's towers.
In the spring of 2010, 6 kestrel nests were installed in the Perugia area and 87 nests were prepared to host red-footed falcons and European rollers in the Ferrara and Parma areas.
In 2010 Terna continued to sponsor the **"birdcam" project** in cooperation with Ornis Italica, which provides for the installation of television cameras on artificial nests to follow the birds' reproduction period online on Terna's website and the www.birdcam.it site. Among other things, the connection via webcams allows animal behavior to be observed scientifically even by remote researchers. The activities of the 2010 season began in January by turning on the cameras in the nest of Aria (Air) and Vento (Wind), the couple of peregrine falcons that nest on a building of the University of Rome "La Sapienza".

EN14

Terna-LIPU agreement: study of the interaction between birdlife and the National Transmission Grid

On December 10, 2008, Terna signed an agreement with the LIPU (Italian League for the Protection of Birds), a partner of Birdlife International, the most important global network of associations for the protection of biodiversity and birds.
This agreement regards the study of the interaction between high-voltage electric lines and birdlife to establish the real impact that the National Transmission Grid (NTG) can have on both migratory and non-migratory birds and assess possible mitigation actions.
For this purpose, a study was organized in seven areas located throughout Italy, which were chosen on the basis of their particular concentrations of wild birds (migration, stopover, reproduction) so as to involve all the main kinds of environment: wetlands, farmland, mountainous environments, forests, coastal areas. These are zones classified as SPZ (Special Protection Zones) and IBA (Important Bird Areas) and at the same time characterized by the presence of NTG lines.
In terms of its extension of areas and temporal continuity, the study constitutes the most complete investigation conducted on this subject in Italy so far. Furthermore, the study established that the removal by predators of birds killed in collisions can lead to the underestimation of the impact caused by a determined HV/EHV line, and thus the number of finds must be corrected by considering the "predator effect".
During 2010, the planned monitoring activities were duly carried out in these areas and were terminated by the end of the first half of the year. The study showed low collision values in four of the seven areas studied (Monti della Tolfa, Parco Nazionale del Gran Paradiso, Parco Nazionale dello Stelvio, and Carso Triestino) and in two of these (Monti della Tolfa and Parco Nazionale dello Stelvio) no victims of collision were found during the monitoring conducted monthly during the year.
Low collision values were also recorded for the Messina Straits area, but considering the particular conditions of the environment (dense vegetation) and weather (fog, wind) observed, as well as the fact that, being a bottleneck in which thousands of migrating birds concentrate, it is an extremely critical site for the risk of collision, the need for a more specific experimental protocol emerged.
In the Mezzano and Lago di Montepulciano areas, instead, the monitoring and connected activities produced an estimate of, respectively, 1.1 and 3.4 collisions per kilometer of line a year. These wetlands and the areas in their vicinity are characterized by intense bird traffic. Furthermore, the species involved are characterized by a low degree of agility in flight. The data demonstrate the existence of a "collision risk" in these areas and suggest that it would be advisable to learn more about the phenomenon in order to assess the actual degree of said risk with respect to the flows of birdlife and to undertake possible mitigation measures, including through new experimental approaches.
Furthermore, the results of the study conducted can provide a substantial contribution in the direction suggested by the Ministry of the Environment in its "Guidelines for the mitigation of the impact of electric lines on birdlife" (INFS, the National Institute of Wild Fauna, 2008) with regard to the identification of suitable ways and actions to prevent and mitigate the real impact of high-voltage lines on birdlife.
The study conducted by the LIPU and Terna was presented for the first time at the "Power Lines and Bird Mortality in Europe" conference organized by Birdlife International, which took place in April 2011 at the Hungarian TSO MAVIR's headquarters in Budapest. The objective of the conference was to facilitate discussion among the parties concerned on the necessity of resolving the problem of the mortality of large birds on electric lines.

The European roller has chosen Terna's nests

The felicitous idea of the Ornis italica researchers to place new nests on the towers of an electric line in upper Lazio whose pathway coincides with the migratory route of the European roller has produced extraordinary results in only two years.
Fostered also by the large, organically farmed area that constitutes the habitat in which these towers are located, the experiment of repopulating this little migratory bird from Africa – decimated by the use of synthetic pesticides that kill the insects it eats, difficult to sight, and in great need of security to nest – has fully succeeded.
In effect, with nearly 100% occupancy of the nests in the second year and the related broods, the total population of the European roller in transit in Italy increased by more than 10% in a single reproductive season, a result that augurs well for the future of this endangered species.
Thanks to the ringing of the females and the newborn, the scientific community and enthusiasts will be able to acquire more information on this magnificent species during the next reproductive season.
To crown this important scientific success, Terna managed to offer all enthusiasts the possibility of following – via a webcam placed inside the nest – a clutch of 5 eggs, their hatching, and both parents taking care of the chicks.
In the period of the nest's occupancy, this webcam was included by the specialized American website Earthcam in its "Winner of EarthCam's Top 10 Cams", a special list of the best webcams in the world.

Energy efficiency and climate change

Terna's business is the transmission of electricity and it does not own any production activities, which are among the most responsible for greenhouse-gas emissions in the electricity industry and businesses in general. For this reason, Terna is not subject to obligations to reduce emissions according to the Kyoto objectives, nor to emission trading schemes of any kind. Terna's decision to undertake in any case to contain its emissions is therefore completely voluntary.

EN3-4 Energy consumption

The transmission of electricity requires the direct consumption of energy only for a few activities that support the service:
- fuel for the Company's vehicles (used for line inspections, repairs, and other activities mainly connected with the maintenance of lines and stations)
- gas oil for emergency generating sets, which are used only in cases where electricity – the normal energy source for equipment – is lacking, in order to ensure the control and restoration of the normal functioning of the electric system
- gas oil and methane for heating, particularly in offices.

The indirect consumption of energy is constituted by the electricity used to run stations and operating systems (more than 94% of the total) and in offices and workshops.

The following tables show Terna's direct and indirect consumption. The database for energy consumption is still being improved. In some cases (gas oil for heating) monitoring regards purchases, with the consequence that the changes from one year to another can reflect procurement cycles rather than reductions or increases in consumption. In other cases, (electricity used in offices and stations) the values reported are estimated because of difficulties connected with exhaustive measurement. However, the estimated indirect consumption of electricity covers 100% of the Company's offices and plants.

Specifically, in 2010 the following increased:
- fuel consumption (gasoline and gas oil) by 2.8%, because of the expansion of the grid and the assets managed, which entailed more driving by vehicles of the corporate fleet for monitoring purposes
- methane consumption for heating, because of the colder weather recorded in some areas of Italy
- electricity consumption, because of the increase (+12%) in stations during the year.

DIRECT AND INDIRECT ENERGY CONSUMPTION BROKEN DOWN BY PRIMARY SOURCE - GIGAJOULES [1]

	2010	2009	2008 [2]
Direct consumption			
EN29 Gasoline for vehicles [3]	7,113	6,981	9,030
Gas oil for vehicles [3]	74,588	72,528	73,791
Methane for heating	7,277	6,144	4,837
Gas oil for generating sets and heating	12,890	13,279	11,352
Total direct consumption	**101,869**	**99,933**	**99,009**
Indirect consumption			
Electricity for stations and offices stations [4]	684,000	633,600	640,044
Total direct and indirect consumption	**785,869**	**732,533**	**739,053**

(1) The data regarding direct consumption in thousands of tons and thousands of m^3 are reported in detail in the indicator tables. The parameters specified in the Global Reporting Initiative's GRI-G3 protocols were used to convert the quantities of resources into gigajoules.
(2) The 2008 values include the consumption of Terna Partecipações. For Italy alone, the 2008 total direct consumption amounted to 87,796 gigajoules and total indirect consumption to 703,396.
(3) The consumption shown in the table includes only the vehicles of the Terna fleet that in the period in question refueled at least once according to the fuel documents. Only the consumption of operating vehicles is considered and not that of managerial vehicles. The 2009 and 2008 data were reclassified in light of the new boundary.
(4) The estimated electricity consumption for 2008 was revised using the same criteria as for 2010 and 2009. Consequently, the 2008 consumption in GWh amounts to 171, with an increase amounting to 21 GWh and 75,600 gigajoules. The reference for the breakdown of the production mix is the "Monthly report on the electricity system" for December 2010, which is available online at www.terna.it.

Direct and indirect emissions of CO_2

EN16

Greenhouse-gas emissions connected with Terna's activities are caused by:
- direct consumption of energy sources (gasoline and gas oil for vehicles, gas oil for generating sets and heating, and methane for heating)
- indirect consumption of energy sources (electricity consumption)
- leaks of SF_6 (sulfur hexafluoride), a greenhouse gas used in station equipment for its high insulating power.

Leakage of SF_6 is the main direct source of Terna's greenhouse-gas emissions. From 2008 to 2010 the quantity of SF_6 present in Terna's plants increased by 43 tons (+13.6%). This trend is common to many transmission companies and is bound to continue in the near future because of technical reasons connected with the superior insulating performance of the gas and the reduced encumbrance of stations constructed with equipment containing SF_6 with respect to more traditional solutions. For this reason, the indicator that Terna watches is the percentage of leakage compared to the total quantity of gas contained in the equipment. In 2010 leakage decreased by 12% in absolute value, entailing a reduction the incidence to 0.73%, compared to 0.89% in 2009. This contributed to the reduction of Terna's direct emissions. The measures implemented to contain emissions are explained in the dedicated section on page 124.

The leakage of R22 refrigerating gas was not considered among the direct emissions of greenhouse gases. The first estimate was made with regard to 2009 on the basis of the quantity consumed (see the "Other atmospheric emissions" section). The estimate for 2010 amounts to 212 tons of CO_2 equivalent, which is not significant with respect to Terna's total emissions and in any case constitutes a decrease with respect to 2009 (976 tons of CO_2 equivalent) because of the reduced use of R22 gas, which is being gradually eliminated.

TOTAL DIRECT AND INDIRECT EMISSIONS OF GREENHOUSE GASES - TONS OF CO_2 EQUIVALENT [1]	2010	2009	2008 [2]
Direct emissions			
Gasoline for vehicles [3]	493	483	626
Gas oil for vehicles [3]	5,520	5,368	5,462
Gas oil for generating sets and heating	954	983	853
Methane for heating	408	344	271
Leakagei SF_6	63,223	71,828	81,499
Total direct emissions	**70,597**	**79,007**	**88,710**
Indirect emissions			
Electricity	81,700	75,680	80.350
Total emissionis	**152,297**	**154,687**	**169,061**

EN29

(1) The conversion of direct consumption into emissions of CO_2 equivalent is made using the parameters specified by the Greenhouse Gas Protocol (GHG) Initiative. For indirect consumption of electricity, the conversion is made taking into account the weight of thermoelectric production in total Italian electricity in 2010. The reference for the breakdown of the production mix is the "Monthly report on the electricity system" for December 2010, which is available online at www.terna.it. The GWh produced by the photovoltaic plants sold to TerraFirma did not entail CO_2 emissions.
(2) The 2008 values include the emissions of Terna Partecipações. For Italy alone total direct emissions in 2008 amounted to 87,890 tons of CO_2 equivalent, while total indirect emissions amounted to 79,484 tons of CO_2 equivalent.
(3) The emissions shown in the table regard the consumption of the vehicles of Terna's fleet that during the period in question refueled at least once according to the fuel documents. Only operating vehicles, and not managerial ones, are considered. The CO_2 data for 2009 and 2008 were reclassified in light of the new boundary of data recording.

EN17 Other indirect emissions of CO_2

In addition to the emissions corresponding to the consumption of electricity, other indirect emissions caused by Terna's activities are connected with:

- employee flying
- grid losses.

The emissions corresponding to employee flying recorded a decrease of 6.4% in 2010 with respect to 2009, mainly because of fewer intercontinental flights following the sale of the Company's Brazilian subsidiary at the end of 2009.

INDIRECT EMISSIONS OF CO_2 FROM EMPLOYEE FLYING

	Miles			CO_2 emissions (tons)		
Kind of flight	2010	2009	2008	2010	2009	2008
Domestic	3,065,573	3,511,970	3,793,592	1,010	1,013	1,090
International	1,128,909	1,223,462	1,306,497	271	260	269
Intercontinenetal	945,914	1,618,459	1,152,414	195	306	231
Total	**5,140,396**	**6,353,891**	**6,252,503**	**1,477**	**1,578**	**1,589**

EU12

Grid losses are defined as the difference between the energy injected by producers and imports and end consumption. The losses that are significant for Terna are those associated with the transmission grid, which in the past were calculated with regard only to lines – with a voltage of not less than 220 kV. Since 2009 – following the acquisition of about 18,500 km of Enel high-voltage lines – losses on HV lines have also been considered. Both measurements are the result of an estimate, which breaks down the total losses of the electric system (including the distribution networks) in proportion to the voltage levels, beginning with calculations performed assuming particular grid configurations and considering the losses on lines because of the corona effect directly proportional to the tension and because of the joule effect directly proportional to the current, as well as losses in the transformers.

GRID LOSSES

	% with respect to energy demand			GWh		
	2010 (1)	2009	2008 (2)	2010	2009	2008 (2)
EHV grid	1.25	1.27	1.32	4,077	4,067	4,457
HV grid	1.42	1.44	na	4,632	4,612	na

(1) Calculated on the basis of the "Provisional operating data of the national electric system 2010".
(2) The 2008 values were calculated only for the Italian assets.

It should be noted that Terna can only contribute to determining the extent of the losses, which are not completely under its control. To explain this fact, it is useful to distinguish between dispatching activities and activities for developing the grid.
Dispatching is necessary to ensure the constant balance between injections and withdrawals and to avoid problems of grid security and poor service. These activities take place according to regulated criteria within the framework of production set-ups determined by the energy market and therefore cannot be conditioned by Terna and the objective of minimizing losses. On the other hand, it should be noted that the energy market implicitly favors the more efficient productions and thus entails a trend of emission reduction that is much greater than that of grid losses.
With equal production set-ups, the activities of grid development would determine greater efficiency and therefore a reduction of losses. However, the development of the grid leads to production set-ups that were not previously possible and also enables consumption to increase. Furthermore, grid development itself is partly dictated by the need to connect new plants, whose location is not determined by Terna. The overall effect of grid development on losses is therefore not predetermined and not even under the control of the grid operator. Other factors can more than offset the increase in efficiency ensuing from the development of the grid, in terms of both the absolute quantity of the losses and the losses as a percentage of the total energy consumed.
The CO_2 emissions associated with grid losses in 2010 were as follows:

- for the EHV grid, 1,749,028 tons
- for the HV grid, 1,986,896 tons.

Terna is developing new specifications for the acquisition and use of medium-voltage/low-voltage transformers with "low losses of electricity". The adoption of the new specifications is in keeping with the Electricity Authority's resolution ARG/elt 348/07. The objective of the new specifications is the construction and acquisition of class-Ak transformers, the highest-performing, with a reduction of losses due to the load of 11% with respect to the current values. As far as "in vain" energy

losses are concerned, the adoption of the B0 class will lead to an average loss reduction of 28% with respect to the current values. The reduction will also have an impact on grid losses.

Other atmospheric emissions

Several refrigerating gases affect the environment because they damage the ozone layer, because of their greenhouse effect, or because they entail both of these effects. In the period 2008-2010, Terna gradually extended its monitoring of the refrigerating gases contained in its equipment. The extension of the recording boundary included equipment that is in operation without pause for the security of the electricity service and requires a larger number of cooling systems to maintain the temperature constant. In 2010, the monitoring of the refrigerating gases contained in Terna's equipment was extended to the corporate headquarters in Rome.

REFRIGERATING GASES - QUANTITIES - KG	2010	2009	2008 (1)
R22	4,716	4,380	2,592
R407C	1,647	817	784
R410A	494	334	349
Other refrigerating gases (2)	210	6	2

(1) The 2008 values were calculated only for the Italian offices.
(2) The quantity of "Other refrigerating gases" for 2010 regards the Rr134a gas, which is present in the headquarters in Rome.

Among the gases contained in Terna's equipment only R22 has harmful effects on both the ozone layer and the greenhouse effect. The other kinds of gas present do not have any effect on ozone, but only a potential greenhouse effect. In 2009 Terna started monitoring its consumption of R22, which constitutes 67% of total refrigerating gases present in Terna's plants. The figure reflects 100% of the plants in which the gas is present and regards consumption, thus involving an overestimate of the gas actually dispersed in the air. In effect, consumption includes the quantity of new gas injected in equipment during maintenance work, which consists initially in the controlled emptying of the aforesaid equipment. These consumption quantities, which can constitute 40% of the total, do not reflect actual atmospheric emissions with effects on the environment.

REFRIGERATING GASES - CONSUMPTION - KG	2010	2009
R22	221	1,017

EN19

The 2010 figure shows a substantial decrease in R22 consumption with respect to 2009, reflecting the program for eliminating the gas in keeping with the restrictions introduced by the European regulations on the use of substances that reduce the ozone layer (EC Regulation n. 1005/2009 of the European Parliament and the Council). For 2011 the plants with R22 that need an injection of the gas will be replaced with plants that use substances that are not harmful to ozone.

EN18 Initiatives to reduce emissions

With regard to the reduction of greenhouse-gas emissions and the fight against global warming, Terna concentrates on several voluntary programs concerning the main sources of such emissions:

- **a program for containing the incidence of SF_6 leakage.** Terna has implemented a number of initiatives, such as the early detection of leakage and the search for technological solutions to increase the tightness of the equipment
- **feasibility studies for initiatives on energy conservation** in electric stations
- **a program for reducing the consumption per km of the corporate vehicle fleet**, which entails a reduction of CO_2 emissions per km (g/km)
- **a program dedicated to the energy efficiency** of the corporate offices, which will be established in 2011 (see the section entitled "Sustainability objectives and results").

The first two cases are initiatives that can have a significant quantitative effect, but only in the medium-to-long term. The results of the third program are already tangible, but regard a source of emissions that is less significant from the quantitative point of view.

Containment of SF_6 leakage

Thanks to its physical and chemical properties, which make it an excellent insulator, SF_6 (sulfur hexachloride) is used as an insulator in some kinds of electrical equipment, thus allowing more compact versions of the latter to be produced. Equipment insulated with SF_6 is more reliable, as well as less bulky. Because of these properties, it is foreseen that equipment with SF_6 will be increasingly used, as it is by transmission companies abroad.

Part of the gas present in infrastructure is dispersed in the air because of the defective tightness of gaskets and sometimes also during pressure restoration. SF_6 is classified as a greenhouse gas. Terna therefore intends to **keep SF_6 leakage under control** to contain and, if possible, reduce its incidence with respect to the total quantity of the gas used (in absolute terms, however, the quantity of dispersed gas could be larger, because of the increased use of equipment insulated with SF_6).

According to the plans for installing new equipment, the foreseeable reduction of the incidence of leakage is 0.1% in five years from when the start of the installation campaign. The latter began in 2009, but is conditioned by the actual availability of equipment with less leakage developed by suppliers. In 2010 Terna began an internal study to identify equipment with anomalous leakage and assess the feasibility of a program of targeted maintenance. The study results will enable the Company to establish a more precise target value for the incidence of SF_6 leakage.

Program/initiative	2009	2010
New procedure for monitoring leakage[1] and reduction of dispersion during pressure restoration.	Application of procedure to all plants for the entire year.	
Integrated compact modules (set of different kinds of equipment) with a reduction of at least 30% of the SF_6 necessary for insulation with respect to steel-clad uprights	After the positive trial results, the equipment is considered an applicative standard and will be installed as necessary.	Installation of the first modules to test their actual performance.
Detection systems with remote transmission of leakage of the gas in equipment[2].	Installation on the 380-kV section of the Lacchiarella electric station completed.	Assessment of results and widespread application.
New highly reliable TA measurement transformers sealed or with maximum leakage of 0.1% a year[3].	Type trials concluded and production started.	Plan for replacing old equipment with new, highly reliable equipment with very low leakage.

(1) The new detection system includes recording of the gas used and dispersed for each station; until 2007, measurement of leakage was based on the total quantity of SF_6 purchased, net of new installations.
(2) The early detection by the remote-maintenance center of the equipment where the pressure of the gas is falling anomalously allows the Company to do targeted work on the equipment, thus also avoiding plant downtime because of insulator leakage.
(3) The particularity of this initiative, which was motivated by the detection of leakage exceeding the declared thresholds, resides in the current lack on the market of equipment ensuring a very low leakage level over time.

SF_6 leakage: a comparison of transmission companies

A better assessment of Terna's performance in containing SF_6 leakage requires a comparison with other, comparable companies. For this purpose, the average percentage of leakage with respect to the quantity used of the main international transmission system operators (TSOs), excluding Terna, was calculated.
The calculation of the average incidence considered the indicators published in the documents of the main global TSOs (sustainability reports, annual reports, environmental reports) or in the sustainability sections on their websites. Therefore, the data normally regard 2009, with the exception of Elia, whose 2010 figure was considered.
The average incidence of SF_6 leakage is 1.05%. For Terna, the incidence of leakage amounted to 0.73% in 2010 (0.89% in 2009).
The TSOs examined are all members of the ENTSO-E (41 companies) and include the world's 14 largest (in terms of kilometers of lines managed) non-members, thus a total of 55 transmission companies. Of these companies, only 7 in addition to Terna publish data that can be used to compare the incidence of SF_6 leakage (Elia, Energinet, National Grid, REE, REN, RTE and AEP, the only one that is not a member of the ENTSO-E). The other companies do not publish data on SF_6 or publish data that do not allow a comparison. In the event the figure regarding such incidence was not shown in the publications examined, the study considered, if available, the data published on SF_6 leakage (or related emissions of CO_2 equivalent) and the quantities contained in equipment.
The 7 companies considered, as well as 6 others for which the data are not available, show that they have policies and initiatives aimed at containing SF_6 leakage. Among these, only 3 state that they have containment objectives – which, however, as far as can be inferred from the information published, are not specified – in terms of the percentage incidence of the leakage.

Energy conservation in stations

Electricity is used in electric stations to enable the equipment and its remote control to function.
The main sources of consumption are:
- cooling power transformers
- external lighting
- air-conditioning systems in places with technical electric equipment
- auxiliary command, control, and protection circuits of all equipment and machinery.

Although the energy consumed is only the quantity that is strictly necessary to ensure functioning, Terna still seeks opportunities to save through:
- natural or automatic circulation systems that optimize the functioning of cooling pumps and fans in transformers
- the installation on station buildings of photovoltaic panels that at least cover the consumption of the computers that manage the plants.

The measurement of the effects of the initiatives described will be possible only in the medium term, when the projects have reached a more advanced stage.

Reduction of emissions connected with energy consumption in offices

EN5

In offices the main sources of energy consumption are connected with lighting, heating and air-conditioning, and the use of computers and printers.
In 2010 the Company measured the reduction of consumption obtained by the replacement of almost 500 screens for personal computers with new screens that use 65% less energy. On the basis of the average number of hours of use a year and the data provided by the producers, a saving of energy consumption amounting to 259.5 gigajoules is estimated, the equivalent of a reduction of 28 tons a year in CO_2 emissions (-67%).

Reduction of emissions connected with mobility

EN29

The Company's vehicle fleet – which is used mainly for inspecting and repairing lines – is not concentrated in a few places, but is used all over Italy. Therefore, there is no problem of impact on specific areas, but a general pollution effect. The most important measure for reducing the impact of transportation on the environment consists in updating the fleet and scrupulous maintenance.

TERNA VEHICLE FLEET [1]	2010	2009	2008 [2]
Hybrid	9	9	9
Euro 5	97	79	11
Euro 4	1,009	1,033	1,010
Euro 3 or lower	273	346	378
Total vehicles	**1,388**	**1,467**	**1,408**

(1) The table shows the vehicles in Terna's fleet that during the period in question refueled at least once as recorded in the fuel documents. Only operating vehicles are considered. The 2009 and 2008 data were reclassified in light of the new boundary.
(2) The 2008 values were calculated only for the Italian fleet.

During the three-year period 2008-2010, Terna undertook other actions to reduce the impact of employee mobility on the environment. In effect, it started:

- a plan to improve employee mobility (optimization of its offices in Rome by moving several of them to a single building and in Milan by opening a new office that replaces three separate ones)
- monitoring of employee travel (survey of employees on moving back and forth between home and work)
- introduction of the use of equipment for videoconferences in 13 rooms in the new headquarters in Rome and 8 in the new Milan office, which can be connected with the equipment of suppliers, partners, and other Terna offices
- incentives for the use of public transportation through:
  1. easy terms for employees in purchasing annual passes based on agreements signed with the public transportation companies of Rome, Milan, and Turin, with 163 employees in Rome and Turin having purchased passes in this way, while for Milan the plan will go into effect in 2011
  2. institution of services connecting two offices in Rome and one in Milan with the closest public transportation junctions at no charge to employees, reducing by 22% the use of private cars in Rome alone
- making the mobility manager an official position
- courses on off-road vehicles regarding safety and emission reduction
- testing the monitoring of travel with Company vehicles through geo-referencing.

Terna uses operating vehicles daily to inspect lines and reach operating plants located throughout Italy. Such inspections often require the use of all-terrain vehicles, because towers can be reached only through unpaved trails.
Since July 2008 the Company has participated in *Quattroruote*'s "10X10" project. So far, 35 companies are committed to reducing the CO_2 emissions of their vehicle fleets. In joining the project, Terna confirmed its concern for reducing the impact caused by emissions deriving from its corporate mobility, and ultimately the fuel consumption and efficiency of its corporate fleet.

The renewal of the corporate fleet begun at the end of 2008 has led to an improvement in the average efficiency of its engines, a reduction of consumption per kilometer, and thus in CO_2 emissions per kilometer. The greatest effect on emission reduction was obtained in 2009 (-24.1 g/km on average). In 2010 another slight improvement was recorded, amounting to 1 g/km, with a reduction of CO_2 emissions amounting to 28.4 tons a year. In 2011 a new replacement campaign is scheduled to begin.

Zero-emission communication

EN18

To offset the emissions of carbon dioxide generated by Terna's instruments of internal communication by creating and preserving new areas of greenery in Rome (in the Aniene Valley Reserve) and Madagascar: With this objective, the cooperation between Terna and LifeGate's Zero Impact® project to reduce and offset CO_2 emissions began in 2010.
Thanks to the creation and preservation of these wooded areas Terna offset the carbon-dioxide emissions – quantified as more than 42,000 kg – generated by the publication of paper supports of internal corporate communication: the periodical of internal information Terna News, the Annual Report, and the Sustainability Report.
Implemented through the Zero Impact® project, the reforestation was carried out in two areas. The first action allowed a belt of vegetation inside the Aniene Valley Park to be restored, thus upgrading the section of Rome adjacent to the area, which now enjoys an access to the previously inaccessible Reserve. About 200 species of trees were planted – native ones functional to the ecosystem, such as poplars, elms, willows, and hawthorns – which contribute to the absorption of CO_2 in a densely populated urban area with heavy traffic, improving its landscape, esthetic, and recreational value and making it usable for also for educational purposes.
The area concerned by this first reforestation action has an extension of 4,000 m². The second one concerned an area of more than 14,000 m² of new forest growing in Madagascar, an island that – thanks to its geographical position and the different ecological characteristics spread over a large area – has one of the highest levels of biological diversity in the world, with an extremely high degree of endemism.
Terna's cooperation with LifeGate and the project will continue in 2011. The areas for offsetting CO_2 will regard in particular the new office in Milan, in keeping with the Company's strategy of ensuring a sustainable presence where its activities are located.

The Development Plan and reduction of the electric system's CO_2 emissions

The construction of the new lines and stations provided for by the 2011 Development Plan will produce positive effects not only in terms of service security and the end cost of electricity, but also of reduced emissions by the electric system. Achievable upon completion of the Plan, the effects will be of three kinds:
- reduction of grid losses
- improvement of the production mix and interconnection with other countries
- connection of plants using renewable energy sources.

Overall, the reduction of emissions within the time horizon of the 2011-2020 Plan could reach the value of about 9 million tons a year.

Reduction of grid losses

Grid losses depend mainly, but not only, on the length the electricity travels on the transmission grid. To simplify: With equal consumption the farther the point of withdrawal (i.e., consumption) of electricity from the NTG is from the point of injection in the NTG of the electricity produced, the greater the losses. Furthermore, holding length constant, losses are greater on lower-voltage lines.
Therefore, losses can be reduced by work that improves the mesh of the grid, i.e. brings the points of injection and those of consumption closer to one another. They can also be reduced by upgrading a grid segment, for example by replacing a 150-kV line with a 380-kV one on the same route.
When all the work included in the 2011 Development Plan has been done, the decrease in peak losses could reach 200 MW of power, which corresponds to a reduction of losses of energy in the grid quantifiable as about 1,200 GWh a year. Assuming that the reduction of such losses is equivalent to a reduction in production from fossil fuels, it is estimated that the aforesaid work will lead to a reduction in CO_2 emissions ranging from 500,000 to 600,000 tons a year [(1)].

(1) The estimate was made assuming equal conditions. A change in consumption or the location of production plants could lead to different results.

Improvement of the production mix and interconnection with other countries

One of the main objectives of the development of the transmission grid is to overcome the limits of transportation between "electric zones". These limits impose several restrictions on the possibility of production by generation units that are more efficient – i.e. less polluting in terms of CO_2 emissions – and at the same time make production by obsolete and inefficient power plants necessary for the security of the grid.
Together with the upgrading of interconnection with other countries, the work provided for by the 2011 Development Plan will make a production mix possible that is more efficient than the current one, with a larger share of production by plants with higher yields. The same quantity of end consumption will be possible with a smaller quantity of fuel, and the benefits can be quantified as a reduction of CO_2 emissions of up to 3,700,000 tons a year.

Connection of plants using renewable energy

The main contribution of the 2011 Development Plan to the reduction of CO_2 emissions will be due to the connection of plants producing from renewable sources. The production of energy from renewable sources has grown rapidly in the last few years. In particular, wind generating plants have considerably increased, especially in southern and insular Italy. During 2010, new wind plants with about 950 MW of installed capacity were commissioned, while photovoltaic plants with about 1,520 MW [(2)] of installed capacity were also commissioned.
One of Terna's main tasks is to plan the upgrading of the NTG in order to encourage production of electricity from renewable energy sources by trying to overcome any grid and operating limitations that could condition the injection into the grid of such energy, which is entitled to dispatching priority.
In this regard, the works included by Terna in the 2011 Development Plan will release about 4,700 MW of power from wind, thus obtaining a reduction of emissions amounting to about 5,000,000 tons of CO_2.

Category	Work	Power from renewable sources (MW)
Grid upgrading indirectly functional for the reduction of operating limitations in dispatching generation, which favors production from renewable sources that cannot be planned	380-kV "Sorgente-Scilla-Rizziconi" line and upgrading of the EHV grid in Sicily	1,000
	Upgrading of interconnection capacity between Sardinia and Corsica/ continental Italy	500
	New 380-kV "Aliano-Montecorvino" line	900
	380-kV "Foggia-Villanova" line	700
	Upgrading of 380-kV "Foggia-Benevento" line	500
Work to upgrade and decongest EHV and HV grid sections into which Terna injects production from renewable sources that cannot be planned	Upgrading the transmission grid in southern Italy	1,100

(2) Provisional data

Priority of wind energy

EU8

In 2010 the injection into the grid of energy from wind plants increased sharply with respect to previous years, coming close to 8.5 TWh – 2.6% of electricity requirements in Italy [1] – as a result of both an increase in installed capacity and the high windiness that characterized the winter months.
The increase in wind production entails a reduction of greenhouse gases, but it has repercussions on the complexity of managing the electric system, which is a consequence of the intermittence of the primary source and its unpredictability.
In order to ensure the maximization of wind production while maintaining the standards for managing the security of the electric system and service continuity, Terna has invested in technologies and work methods for:

- improving 72-hour forecasts
- optimizing maintenance allocation
- updating defense systems and operating procedures.

Improving 72-hour forecasts

An accurate forecast of the injection of wind energy enables Terna to optimize its planning of the operation of the national electric system and in particular of thermal production, with advantages in terms of both cost-effectiveness and security through better dimensioning of operating reserve margins.
The investment made by Terna to improve forecasts through the use of self-learning expert systems has enabled the Company to reduce the error in forecasts of the injection from wind plants in 2010 to 18% – against the 22% recorded in the previous year – in line with the best international benchmarks.

Optimization of maintenance allocation

The unavailability of grid elements (lines, transformers, bays, etc.) because of maintenance work can entail a limitation of the grid's transportation capacity and thus of the production of the wind plants concerned.
Therefore, in order to maximize production from renewable sources, Terna equipped itself with instruments and methods for optimally allocating maintenance, which include the following criteria:

- Long periods of unavailability, including those regarding grid developments in preparation of the upgrading of backbones with a high level of installed wind power, are allocated in periods with low windiness, which are identified through appropriate systems for forecasting medium-term wind production.
- Brief periods of unavailability are allocated according to short-term forecasts of wind production (for example, allocation 24-48-hours in advance on the basis of the forecast of wind on specific areas of Italy.

Thanks to such instruments and work methods, Terna has managed to limit considerably the limitations of wind production regarding the maintenance of grid elements.

Updating the defense systems

The overhauling of the grid defense system in Sicily enabled Terna to maximize during the year injections from wind plants, attaining in November a peak day's production of 17.9 GWh, which amounts to 37% of the island's energy requirements on the day in questions. Overall in 2010, the percentage of coverage by wind production of the island's energy requirements amounted to 10.7% against the 7.5% recorded in the previous year.

(1) Provisional 2010 data as of March 2011.

The benefits of the single authorization

The development of energy production from renewable sources involves Terna's activities in several ways. In particular, Terna is entrusted with connecting new plants producing from renewable sources to the electric grid. In effect, with regard to plants with 10 or more MW of installed capacity, aspiring producers have to first of all request the connection solution from Terna, which must provide it within 90 days. Once they have obtained the technical connection solution, they may then request authorization to build the plant. In the last few years, there have been problems with the processes for requesting both the connection solution and authorization, and there still are in the case of the former.

In effect, the request to Terna does not entail any particular costs for the applicant or in any case economic commitments guaranteeing that the project will be implemented. The result is that Terna has received requests for the connection of about 130,000 MW, more than twice the power necessary to cover the peak electricity demand in Italy. Besides the organizational burden of processing so many requests, this situation makes it objectively impossible for Terna to plan its development investment in a way that is consistent with a credible projection of production from renewable-energy plants when the latter are operating at full capacity. A possible solution was constituted by AEEG resolution 125/2010, which provided for the presentation of a financial guarantee to confirm the reliability of the investment, thus facilitating the selection of the soundest requests. The regulation is currently suspended as ordered by the TAR, whose definitive decision is expected around the end of June 2011.

Once the connection solution has been obtained, the applicant may present a request for authorization to the government concerned. Pursuant to legislative decree 387/2003, this request must regard the construction of both the plant and the related connection works according to the technical solution specified by Terna. The authorization is issued by the regional governments – or, if so empowered, by the provincial ones – after a process in which all the governments concerned participate. With 90 days after the date of the presentation, excluding the time necessary for the EIA, the competent government ends the single-authorization procedure. Once the authorization has been granted, the company starts the construction of the production plant, while at the same time Terna begins the works necessary to connect it to the electric grid.

In past years, regional governments did not have a uniform approach to the single-authorization process, with the result that in many cases it was essentially not applied. Consequently, there were situations in which plants were authorized without authorizing at the same time the related infrastructure to connect them to the grid. The separation of the authorization procedures led to the paradox of renewable-energy plants causing problems in the management of the electricity system and additional costs for all users because they had not obtained the single authorization.
In the last few years, the more scrupulous application of the single-authorization procedure by the regional governments has prevented the situation from worsening and has allowed work on plant construction and work on the related connections to proceed together. At the same time, Terna's increased investment has enabled the Company to put into operation grid works ensuring an increasing use of the energy produced from renewable sources, thus resolving some of the problems that had arisen in the past. Wind plants with more than 6,000 MW of installed power are currently connected to the grid, as well as photovoltaic plants with over 5,000 MW.
With the single authorization issued for production plants, Terna has plans to construct collection stations, which will enable multiple plants to be connected to the grid, while occupying less land.

Resource use and waste management

The production of a service does not normally require significant materials and similarly does not entail treatment of significant quantities of waste. The electric power transmission service is no exception. As far as the materials that enter and leave the production cycle of the service are concerned, the most significant consumption concerns energy and has already been discussed in the “Energy consumption” section.

However, the provision of the transmission service requires the construction and maintenance of a large endowment of capital goods: power lines (towers, wires, insulators), transformation stations (transformers, switches, other station equipment), and control systems are the main components.

Both Terna’s use of materials and its management of waste regard preponderantly the construction and maintenance of electric and IT infrastructure.

Resources

EN1

As far as materials are concerned, **Terna does not use raw materials, but electrical equipment**, wires, and other elements, which are combined to be utilized in providing the transmission service. Produced for the first time in 2008, the following table shows the main non-renewable raw materials used by Terna. The weight is calculated on the basis of the quantity used, the average or typical weight of the single elements, and the share of raw materials contained. In some cases the elements consist of a single raw material (for example, insulators are 100% glass or ceramic, terminals 100% aluminum), while in others an estimate was made of the main raw material (for example, copper accounts for 60% of the weight of an ATR transformer). Information is not currently available on the use of recycled materials by the supplier of the materials and equipment used.

The increase in the use of raw materials, in particular aluminum and steel, is due to the progress made on the construction of the new 380-kV connecting lines included in the Development Plan.

PREDOMINANT RAW MATERIALS IN SUPPLIES - TONS	2010	2009
Porcelain	663	494
Polymeric	350	244
Copper	3,853	2,628
Alluminum	4,927	2,224
Steel	17,114	6,496
Glass	1,523	1,191

In office work, the main consumable is paper.

PAPER CONSUMPTION - TONS	2010	2009	2008 (1)
FSC Paper	83	53	53
Coverage of the data (2)	100%	81%	82%

(1) The 2008 values were calculated only for offices in Italy.
(2) The coverage of the data regarding paper consumption is expressed as a percentage of the total number of executives and white-collar workers.

Paper consumption regards the quantity purchased. The recording boundary has expanded since 2009 and now includes all offices, including the headquarters in Rome. The inclusion of the headquarters, where all the Company’s typical office work is concentrated, entailed a 57.6% increase in consumption. In 2010, paper consumption per person, net of blue-collar workers, amounted to about 34 kilograms.

All the paper purchased since the end of 2009 has been made with FSC pulp – that is, without any chlorine whatsoever – certified by the FSC (Forest Stewardship Council – www.fsc.org), which guarantees that the forests providing the cellulose are managed in accordance with sustainability criteria from the point of view of both the environment and human rights.

EN2

EN8 **Water is not part of the production cycle of the transmission and dispatching** of electricity. Normally the water used – for personal hygiene, cleaning offices, and air-conditioning systems – comes from aqueducts for civil uses. The increase in consumption in 2010 was due mainly to the leakage of two pipes in two local offices, which in one case was connected with the effect of freezing weather on the plumbing and in the other with work carried out in the vicinity of the pipe. The data are recorded from the meters and bills of suppliers for the entire recording boundary.

WATER CONSUMPTION - CUBIC METERS	2010	2009	2008 (1)
Water withdrawal	184,979	158,942	131,736

(1) The 2008 number for water consumption in this document is different from the one reported in the preceding publications (105,851 m^3 for the Group and 98,041 m^3 for Italy). The values reported are the result of an estimate that adds the assumed consumption of the sites recorded from 2009 on to the consumption recorded in 2008. The year 2008 also includes the consumption of Terna Partecipações. The consumption regarding the Italy boundary for 2008 was estimated to amount to 123,926 cubic meters.

EN22 Waste

Much of Terna's waste is recycled for production. Only a small part is delivered to dumps and therefore entails an environmental impact. The waste recycled in 2010 amounted to 89% of the total (83% in 2009, 91% in 2008).

WASTE BY CATEGORY (1) - TONS	2010	2009	2008 (2)
Waste produced	**5,515.9**	**7,053.3**	**8,023.7**
Hazardous	3,013.3	3,995.7	4,011.4
Non-hazardous	2,502.6	3,057.5	4,012.3
Recycled waste	**4,912.8**	**5,856.3**	**7,272.6**
Hazardous	2,849.5	3,322.0	3,618.6
Non-hazardous	2,063.3	2,534.4	3,654.0
Waste delivered to dumps (3)	**626.4**	**1,043.1**	**751.1**
Hazardous	191.5	630.9	392.8
Non hazardous	435.0	768.7	358.3

(1) Only waste stemming from the production process is included. Waste produced by service activities (urban waste) is excluded. Also excluded is waste belonging to the "excavated earth and rocks" and "sewage" categories, because – especially in the case of significant quantities – it has an exceptional aspect connected with the construction of particular work in stations and would make the data series non-homogeneous. The figures for the excavated earth and rocks and for the sewage amounted to 1,541 tons in 2010, 16,053 tons in 2009, and 69,023 tons in 2008.
(2) The 2008 values include the waste of Terna Partecipações. For the Italy boundary alone, the total waste for 2008 amounted to 8,010.7 tons.
(3) Since 2009 the values regarding waste delivered to dumps are the result of a precise collection of data and may differ from the simple difference between waste produced and waste recycled (a calculation criterion that was used in 2008 as well) because of the temporary storage of waste straddling two years (part of the waste recycled or delivered to dumps in 2010 may have been produced in 2009).

The reduction of about 20% of the waste produced is due mainly to the closing of large construction sites after the plants had been completed (SA.PE.I.).

Like the resources used, waste is connected mainly with the modernization and maintenance of the electric infrastructure.

The main **non-hazardous special waste produced** by Terna's operating activities consists of:
- **metal** (about 65% of the total) from discarded **transformers, electrical equipment, and machinery** (for example, generating sets), more than 90% of which is recycled
- **glass and ceramic** (about 14% of the total) from discarded insulators (materials used to insulate conductor cables from support towers), more than 90% of which is recycled
- **wood** (about 10% of the total), mainly from the packaging of the materials purchased, more than 80% of which is recycled.

The main hazardous special waste produced by Terna's operating activities consists of:
- **metal** (about 68% of total hazardous waste) from discarded transformers, electrical equipment, and machinery contaminated by hazardous substances, of which – after treatment by other companies – more than 90% is recycled
- **batteries** (lead and nickel, about 5% of the total), which in the event of blackouts enable emergency generating sets to be turned on to keep the service of electricity transformation and transportation operating during emergencies and 100% of which is recycled

- **dielectric oils** for insulating transformers (about 34% of the total) replaced after the periodical checks performed for transformer maintenance, which constitute hazardous waste and of which about 60% is recycled (a lower percentage than in the other cases, because it also includes the non-recyclable oils present in the collection tanks mixed with rainwater).

Waste delivered to dumps consists mainly of materials used in the maintenance and cleaning of plants (mud, oily emulsions, and rags containing oils and solvents) and insulating materials containing asbestos for which no kind of recycling is provided. All these items together weigh about 75% of the total delivered to dumps.
For further details regarding the quantities and kinds, see the indicator tables.

Disposal of equipment containing oils with PCB

EN1

Polychlorinated biphenyls (PCBs) were used all over the world as insulators in transformers and other electronic equipment, because they constituted a good alternative to inflammable mineral oils. However, studies subsequently showed that PCB is extraordinarily bio-resistant and can thus have dangerous effects on living organisms.
Legislative Decree 209/99, CEI regulation 10-38, the Ministry of the Environment's guidelines, and EC law 62/05 introduced the obligation to declare the quantity of oil contaminated by PCB possessed and established procedures and deadlines for its disposal.
In compliance with this provision, Terna implemented a disposal program, setting objectives for completing the work before the deadlines prescribed by law. Since 2009, there has been no equipment containing oil with more than 500 ppm of PCB. For oil contaminated by PCB with concentrations of 500 ppm or less and more than 50 ppm, the plan provided for a reduction of the quantity to less than 20,000 kg by the end of 2010. The result obtained (slightly over 8,000 kg) went beyond the target and in effect ends the disposal program. The reduction of the last few years follows a drastic abatement achieved in the previous years, which was described in an article in the first issue of the magazine of the PCB Elimination Network (PEN), an initiative of the UNEP (United Nations Environmental Program) aimed at drawing attention to the elimination of PCB in all countries, which Terna joined.

DISPOSAL OF EQUIPMENT CONTAINING OIL WITH PCB

	kg of oil		
	2010	2009	2008 (1)
PCB concentration			
PCB > 500 ppm	-	-	4,461
PCB >50 ppm ≤ 500 ppm	8,266	131,852	131,520

(1) The 2008 values were calculated only for the Italian assets.

Costs for the environment

EN30

Terna's commitment to the environment is shown in the costs it incurs for environmental reasons, as both investment and current expenses. Its environmental costs were presented separately for the first time with regard to 2009 and then again in 2010, according to the definitions referred to below, by aggregating information provided by the Company's general and industrial accounting.

Recording methods

The identification of environmental costs is based in the first place on the available definitions, in particular those of Istat (National Statistical Institute), Eurostat, and the GRI, as well as on the recommendation of the European Commission regarding the recording and disclosure of environmental information in annual accounts and reports (Recommendation 2001/453/EC). According to this recommendation, "the term 'environmental expense' includes the cost of measures taken by a company, directly or indirectly through third parties, to prevent, reduce, or remedy damage to the environment caused by its operating activities. The costs in question include, among other things, the disposal of waste and measures aimed at preventing its formation, the protection of the soil and surface and underground water, the protection of the air and

climate from pollution, the reduction of acoustic pollution, and the defense of biodiversity and the landscape".
In the second place, the aforesaid definitions were applied to the environmental aspects considered significant (for example, the noise of stations, electromagnetic fields) in the Company's ISO-14001-certified Environmental Management System to identify in the main corporate processes Terna's operating and investment activities with environmental significance.

Many of Terna's activities described in this Report entail environmental expenses. However, several limitations were introduced in determining the recording boundary:

- exclusion of integrated costs, i.e. regarding activities whose purpose is not exclusively environmental (for example, the use of towers with features that are innovative also from the point of view of their environmental integration) because of the subjectivity of recording only the environmental components
- exclusion of the additional costs connected with the consideration of restrictions or requests for the safeguard of the environment during the stage of planning and designing new lines (detours, burials).

Other conditions were that the costs were a) significant, b) consistent with the annual reporting of accounts (operating costs and investment clearly distinguished), and c) directly recordable by the existing corporate accounting system. The last condition regards the need to minimize recourse to estimates based on off-the-books analysis.

Costs for the environment

In the light of the foregoing, the following table constitutes the best representation of the costs incurred by Terna for the environment.
These costs exclude expenses regarding internal resources and consider only expenses for external purchases. The "Environmental activities – existing plants" item, which includes the costs of internal personnel, is an exception.

In accordance with the method adopted and the footnotes to the table, it should be noted that the environmental costs shown constitute a subset of the total environmental costs, as defined above, actually incurred.
The costs shown in the table regard Terna S.p.A.; the boundary does not include the investment in the photovoltaic project made by SunTergrid.

COSTS FOR THE ENVIRONMENT - INVESTMENT AND OPERATING COSTS - MILLIONS OF EURO

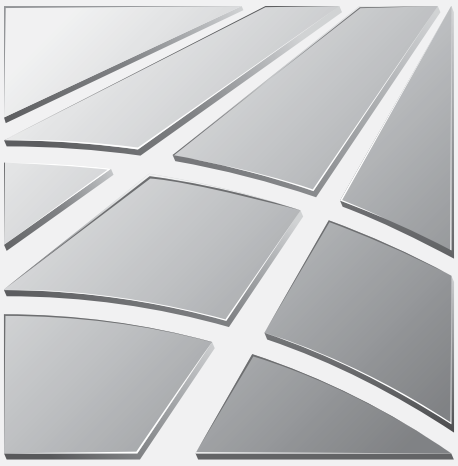
	2010	2009
Investiment		
Environmental offsets (1)	24.1	28.9
Environmental impact studies (2)	1.5	0.4
Environmental activities – new plants (3)	4.0	2.8
Environmental activities – existing plants (4)	15.7	7.8
Demolitions (5)	5.8	2.7
Total investment	**51.2**	**42.6**
Costs		
Costs for environmental activities (6)	9.7	9.0
Total operating costs	**9.7**	**9.0**

(1) These are the sums for offsetting the works provided for by the Grid Development Plan, as determined by special agreements entered into with local institutions. They are recorded as investment at the time when the commitment is made, i.e. when the agreement is signed, while the cash flow depends on how long it takes get obtain the authorization and construct the works.
(2) Studies of environmental impact regarding plants included in the Grid Development Plan that are at the construction stage or in the process of being authorized by the relevant governments.
(3) The amount shown is the result of an estimate. On the basis of an analysis of several large investment projects, it turned out that at least 1% of the total expenses of the project regard environmental items, usually determined by obligations (for example, masking with trees, barriers against noise, installation of dissuaders for birdlife, environmental monitoring, analysis of excavated earth and rocks). Therefore, a value of 1% of 2010/2009 investment costs for projects with similar features was considered.
(4) Expenses for upgrading existing plants in accordance with prescriptions and new regulations in the environmental field (for example, noise, visual landscape aspects). The approximately 50% increase in this cost item over 2009 is mainly due to asset mapping.
(5) Costs for the definitive dismantling of lines as part of rationalization projects. For 2010 only the amount regarding the most significant demolition (Val d'Ossola Sud and Casellina-Tavernuzze-Santa Barbara) is reported, because the determination of the sums corresponding only to demolition activities requires an off-the-books analysis.
(6) Cutting plants, cutting grass, and waste management. These cost items – the only ones so far determined directly by the industrial accounting – do not exhaust the year's total environmental costs, but they constitute the preponderant part of them.

Adriano

SWEPT ALONG BY GIAMPIERO'S ENTHUSIASM, ADRIANO HAS MADE THE PROJECT HIS OWN. FOR HIM, TOO, THE ENORMOUS EXERTION OF WORKING AT AN ALTITUDE OF 4,000 METERS IS NOTHING COMPARED TO THE SATISFACTION OF PUTTING HIS EXPERIENCE AT THE SERVICE OF THESE PEOPLE, AS WELL AS HIS PRIDE IN REPRESENTING TERNA'S EXCELLENCE AND IN SEEING HIS APPRENTICES NOW ABLE TO WORK ON THEIR OWN.

2010



Social responsibility

Terna

Our approach

Human resources play a crucial role in Terna's activities. It is people who have the peculiar, rare, or unique technical expertise regarding electricity that enables Terna to carry out its activities as well as possible, with a high level of professional competence and operating efficiency, and to implement the Company's strategy and achieve its objectives. Diligence in renewing these capabilities constitutes an essential element of Terna's managerial approach to human resources. Equally important is another element: concern for occupational safety, which is required by operating activities featuring particular risks, such as tasks performed at heights of many meters above the ground and maintenance work on live lines.
Over time, the importance of these aspects has led to an approach based on:

- **concern for safety** and the prevention of injuries to ensure the physical integrity of employees
- the design of management and development systems aimed at **improving performance and developing individual capabilities**
- **investment in training** to enable the Company and its employees to grow
- **compensation and welfare** policies aimed at aligning individual performances with the Company's goals and providing economic security for employees and their families
- a well-organized system of **industrial relations based on the involvement of the labor unions** in numerous aspects of corporate life
- listening to employees through surveys of their opinions.

Policies regarding employees are established by the Human Resource and Organization Department, while resource management is entrusted to the heads of other departments as well. Aspects regarding safety are the responsibility of the corporate Safety Department.
Until they were sold on November 8, 2009, Terna's Brazilian subsidiaries were also managed according to the aforesaid approach.
As far as relations with employees and the unions are concerned, see the section on stakeholder engagement in addition to the following pages.

LA1
LA2
LA13

Changes in personnel composition

In 2010 the Group's personnel recorded a slight increase over 2009, partly offsetting last year's decrease, which was due to a larger than expected number of terminations, as well as the sale of the Company's Brazilian subsidiaries. The three-year trend shows a slight decrease net of the boundary reduction and is in line with the Company's plans regarding efficiency (see the box entitled "The management of generational turnover" on page 140).
Retirement is by far the most important cause of employee terminations and is concentrated among the oldest workers. The turnover rate due to spontaneous resignations continues to be very low (1.4%), so the overall turnover rate essentially reflects retirements. The average number of years worked at the Company by employees who quit in 2010 was 31.6.

AVERAGE YEARS OF EMPLOYMENT OF EMPLOYEES LEAVING THE COMPANY (1)	2010	2009
Total terminations	31.6	32.3
Men	31.2	33.0
Women	37.2	25.5
Less than 30 years old	1.6	1.0
Between 30 and 50 years old	9.1	8.6
More than 50 years old	34.1	34.1

(1) In the case of employees hired following acquisitions of divisions, the length of employment takes into account their previous employment.

For the sake of completeness, it should be noted that as of December 31, 2010 Terna S.p.A. had 28 temporary workers (33 in 2009 and 15 in 2008), who were employees of agencies that supply labor to Terna. Although they were not employees of the Company, these 28 people were involved in Terna's activities for a pre-determined period of time and fall under the GRI's definition of "total workforce" as "supervised workers". These workers are not included in the personnel data shown in the tables.
The increase in the number of fixed-term employees (from 2.1% to 3.1%) reflects the use of 18-month beginner contracts, which are generally transformed into permanent ones at the end of the period of training and professional integration.

PERSONNEL CHANGES	2010	2009	2008 (1)
Total employees	**3,468**	**3,447**	**3,734**
Boundary change		-210	
Employees hired during the year	178	57	147
Employees leaving during the year	157	134	134
- Men	147	122	13
- Women	10	12	13
- Less than 30 years old	7	1	32
- Between 30 and 50 years old	7	8	102
- More than 50 years old	143	125	
Turnover rate (2) terminations (%)			
Total	**4.6**	**3.8**	**4.1**
Men	4.3	3.5	3.7
Women	0.3	0.3	0.4
Less than 30 years old	0.2	0.0	0.4
Between 30 and 50 years old	0.2	0.2	0.9
More than 50 years old	4.2	3.6	2.8

PERSONNEL COMPOSITION	2010	2009	2008 (1)
Total employees	**3,468**	**3,447**	**3,734**
By contract type			
- permanent	3,361	3,374	3,568
- fixed-term	107	73	166
By employment type			
- full-time	3,438	3,417	3,708
- part-time	30	30	26
By gender			
- Men	3,095	3,092	3,344
- Women	373	355	390
By age			
- less than 30 years old	14%	11%	11%
- between 30 and 50 years old	43%	45%	39%
- more than 50 years old	43%	44%	50%

(1) The 2008 Group data included the subsidiary Terna Partecipações. In 2008 the employees in Italy totaled 3,524.
(2) The turnover rates report the percentage of terminations with respect to the number of employees as of December of the previous year. It was not considered necessary to further break down the data by region, because Terna has operations only in Italy.

To facilitate the interpretation of several indicators regarding personnel composition, the following table breaks down the employees of Terna S.p.A. by professional category as of December 31, 2010.

PERSONNEL COMPOSITION BY CATEGORY	2010
Senior executives	59
Junior executives	502
White-collar workers	1,890
Blue-collar workers	1,017
Total	**3,468**

Terna has offices all over Italy – among other things, because of the necessity of prompt maintenance work on the entire extension of its grid – with 37% of its employees in the North, 37% in Central Italy, and 26% in the South and on the islands.
In 2010, the employees of contractors worked 434,044 days all over Italy on jobs performed on Terna's behalf, the equivalent of 1,973 full-time employees (FTE), mainly blue-collar workers engaged in constructing electrical lines and stations. The increase recorded during the three-year period reflects the growth of investing activities. These data take into account the duration of the contract work, as well as the variability of the use of personnel therein, and regard all of Terna's contract work, from the construction sites of large-scale work to the cutting of vegetation under overhead lines. The days worked and the FTE are estimated on the basis of the average daily number of workers on the largest construction sites and the amounts paid for contract work on the smaller ones. (No additional information is available regarding the kinds of contracts applied by the contractors.)

EU17

EMPLOYEES OF CONTRACTORS AND SUBCONTRACTORS	2010	2009	2008 (1)
Days worked	434,044	336,600	251,994
Full-time equivalent	1,973	1,530	1,145

(1) The 2008 figures were calculated only for Italian contractors and subcontractors.

EU15
EU21

The management of generational turnover

In the next few years, one of the main issues regarding Terna's human resources will be the management of generational turnover. In effect, the age of many employees and the number of years they have worked at the Company will automatically lead to their retirement or make it possible for them to do so voluntarily.

AUTOMATIC AND POTENTIAL TERMINATIONS EXPECTED IN THE FIVE-YEAR PERIOD 2011-2015	
Senior executives – Junior executives – White-collar workers	467
Blue-collar workers	261
Total	**728**

The potential retirements regard employees who during the year attain a combination of age and years of contributions that allows them to receive a pension – albeit a possibly reduced one – if they retire. It is not certain that these employees will actually retire, but considering them together with the automatic retirements (upon turning 65) is a prudent choice. In effect, in the recent past many employees have decided to retire early. The numbers with respect to the total workforce (21%) are significant and require the Company to take appropriate measures in advance to ensure that it has the necessary resources and capabilities. Then there is the fact that in any case the potential retirements of the five-year period 2011-2015 will become automatic retirements if the time window is enlarged. It is certain that in the decade 2011-2020 769 employees (about 22%) will go into retirement.

Terna's employees work only in Italy and therefore a further break-down of the figure is not considered meaningful.
Terna has already taken a number of measures for managing this generational turnover, including:

- the expansion of training courses taught by in-house personnel to transmit knowledge and experiences, which are often specific only to Terna
- a project of professional orientation to identify the managerial capabilities, potential for development, strong points, and aspects needing improvement of about 160 employees in the operating areas. The main objective is to create technical and managerial capabilities to perform critical roles appropriately, while at the same time fostering greater integration and cross-cutting professional development.

It should also be considered that the entry of new resources with more education will make it possible to carry out the same activities as today more efficiently.

Search and selection

EU14

The search-and-selection process aims to ensure the Company the expertise it needs to achieve its objectives.
The people hired from the external labor market are mainly recent university and secondary-school graduates, in particular electrical engineers (and to a lesser extent ones in other fields) and technicians with diplomas from vocational schools, mostly in the field of electricity. These are young people, who are assigned roles as professionals, as well as technical and operating employees. They receive the basic training required through post-hiring processes that continue throughout their working life and acquire the specific knowledge and capabilities needed. To a lesser and very targeted extent, the Company also hires resources with experience regarding specific professional roles of the core business (for example, project and program managers, construction site managers, experts in authorization processes, expert environmental impact analysts, technical designers, etc.) or business-support areas (mainly with an economic background).

Over time, the generational turnover the Company is experiencing and hiring policies entail a decrease in the average age and an increase in the education of the corporate population.

PERSONNEL COMPOSITION BY SCHOOLING

Percentage of employees as of December 31, 2010	2010	2009	2008 (1)
University degree	19.2	18.0	17.0
High school diploma	46.5	45.6	45.0
Vocational school diploma	16.2	17.0	17.0
Elementary/Middle school	18.2	19.4	21.0

(1) The 2008 figures were calculated only for employees in Italy.

The process of searching for and selecting personnel is managed by the Human Resource and Organization Department, which also handles relations with schools, universities, employment agencies, etc.
The most important channel for finding candidates is the ***Lavorare in Terna*** **("working at Terna") section of the Company's website**, where applicants can insert their CVs and automatically receive an e-mail of confirmation. In 2010 the section was renovated and enhanced with information on Terna's policies regarding the management and development of human resources. To guide candidates, there are descriptions of the profiles and professional qualifications sought in the Company's different areas. For viewers of the section who would like further information, a dedicated e-mail address is available (hr@terna.it).
When particular profiles are sought or are hard to find, the Company uses channels that are alternative to the website database: lists provided by schools and universities, job meetings, career days, employment agencies, newspaper announcements, and online sites (see the following box).

Recruiting: Terna's faces for the colleagues of tomorrow

To look for tomorrow's colleagues by lending one's face to a special edition of the corporate logo: This was the creative idea behind the Company's 2010 recruiting campaign.
Through images of themselves, more than 300 employees gave rise to a representation at once concrete and symbolic of Terna to put a potential employer in contact with people looking for a job, in particular young university graduates.
The logo was conceived for the publication of a page of advertising dedicated to universities. In the format of a panel for stands, the same picture represented Terna in the university career days planned during the year. This was an original, engaging, and open way to present Terna and invite potential future colleagues to participate in developing the grid of tomorrow.

The methods and instruments used in the selection process are differentiated according to the profile (recent graduates, junior, middle/expert, senior) and the number of resources sought.
To select recent university and secondary-school graduates, the Company generally uses the assessment center (a series of tests aimed at ascertaining whether candidates possess the basic motivational and behavioral requisites) and one or more interviews aimed at assessing their technical and professional knowledge and capabilities. The assessment center and the first technical/professional interview are often carried out at the same time. Experts from the department or unit concerned participate in the selection process, together with HR specialists, and handle the technical/professional investigation in a methodological framework for which the Human Resources Department is responsible.
For the selection of senior resources the Company uses a sequence of interviews that aim to establish whether candidates match overall the profile wanted. The first interview is always handled by HR specialists to identify a short list of candidates who will then be invited for a technical/professional interview. The final interview is carried out by HR personnel and the Heads of the departments to which the resources would be assigned.
In line with the Company's policy of transparency and fairness in its relations with stakeholders, at the end of the **selection process** Terna always informs all the participating candidates of the results, whether positive or negative.

Relations with schools, universities, and centers of excellence

Terna is expanding its relations with the world of universities, post-graduate training, and institutional training in general to support the process of finding new resources and create a virtuous circle of exchange between the Company and the outside world.
The numerous kinds of cooperation provide for possibilities regarding dissertations, internships, traineeships, project work, and scholarships, as well as the exchange of know-how, with university lecturers participating in our courses and our experts in university or secondary-school courses, rather than guided tours of our plants.
The *Lavorare in Terna* section of the corporate website provides information on the procedures for implementing these initiatives, a list of the agreements already in effect with universities, and the job meetings and career days in which the Company participates.
In 2010, 25 agreements were in effect, including both framework ones (i.e. with all faculties and master's programs) and specific ones with particular departments, faculties, or master's programs of leading Italian universities and business schools.
The Company hosted 34 interns, trainees, and students writing theses, a significant increase with respect to past years (e.g. 12 in 2009). Some of these were subsequently admitted to the selection process and hired.
The Company participated in 8 career days: "Alma Orienta" at the University of Bologna in February, "Orientati al Futuro" at the Turin Politecnico (Institute of Technology) in March, the Career Day at the Milan Politecnico in May, the "I giovani e il lavoro" event at the Guido Carli University (LUISS) in May, the Rome Job Meeting in May (in which all the universities in Rome participated), the Bologna Job Meeting at the Palazzo dei Congressi in Bologna in

October, the Padua Job Meeting at the Fiera di Padova in November, and the Milan Job Meeting at the Centro Congressi Palazzo delle Stelline in December.
Terna continued the activities that are part of the FIGI (Engineering School and Large Enterprises) Project, the Protocol of Understanding between the Engineering Faculty of the University of Rome "La Sapienza" and several large companies that operate in Rome. Terna participated actively in the teaching of the Electrical Engineering course by organizing 23 seminars on specialized technical subjects held by its experts, as well as guided tours of its plants (the Roma Nord station, the National Control Center, the SA.PE.I. construction site), in which about 110 students participated. The Company is also engaged in promoting and enhancing the Electrical Engineering course, whose enrollment has decreased in the last few years, with consequent problems in finding resources for all the companies concerned, especially in Rome.
Finally, with regard to secondary schools, the Company was involved in a project with a technical institute (ITIS) in southern Italy, organizing 3 seminars taught by our instructors and tours of the Remote-control Center in Bari and the National Control Center, in which a total of 50 students participated.

Training

EU14

At Terna training is strategically important for developing human capital in keeping with the Company's mission, strategy, and objectives.
In other words, it constitutes a joint individual and corporate investment aimed at creating value for both individuals (by increasing their employability) and the Company (by making their contribution more motivated and qualified).
Maintaining, sharing, and transferring Terna's unique and specialized know-how is ensured by a training model based on the willingness of the most expert resources to perform the role of planners and instructors on the Campus faculty, facilitating at the same time the development of the sense of belonging and integration in the Company. Cooperation with universities, business schools, and external centers of excellence in general ensures the necessary mix of Company knowledge and stimuli from the outside world.
Terna's training model favors active methods for the classroom, accompanied by on-the-job training and – if they are consistent with the objectives and content concerned – innovative methods such as outdoor training, the development center, the business game, and the use of simulators. E-learning is used in large campaigns to transfer knowledge and information and can play a supplementary or substitute role in classroom learning regarding specific objectives or content.
Systematic examination enables the Company to collect useful feedback and continually improve its model. The instruments used at the end of courses range from rating questionnaires to achievement tests. At least every two years a survey is made of all heads of resources to ascertain the level of effectiveness they perceive (how well the courses satisfy needs, their quality and contribution to resource development) with respect to all the initiatives implemented during the year.
In 2010, the Campus portal – which has been accessible from the corporate intranet since the end of 2009 – was further enhanced to support the dissemination of information on training possibilities and make available the documentation accompanying the courses, in particular those organized by the Terna faculty. In September 2010 work was begun on the Campus premises, which are expected to be available in the last quarter of 2011.

Training provided by Campus includes:
- centrally planned courses/pathways/campaigns for targeted beneficiaries
- internal or external catalogue courses assigned upon request to individuals or small groups
- local Transmission Operating Area courses (to satisfy needs not covered by the centrally organized ones)
- special events.

Training initiatives are categorized by subject area:
- **Context & Business Model** for learning about the internal and external business context in which Terna operates and promoting corporate identity. It includes, for example, the "Company presentation" courses for new hires and the training programs on corporate governances issues (Code of Ethics, 231 Compliance Program, etc.). The Campus faculty is often directly in charge of the activities.

- **Education** for managerial and personal development. This training increases role capabilities and fosters the acquisition of the values and sensibilities on which Terna's organizational culture is based.
- **Training** for developing technical and professional expertise and acquiring cross-cutting skills (e.g. foreign languages, office automation). It is organized in homogeneous sections established by analyzing objectives, content, and the professional category of the individuals concerned.
- **Pathways**, which are short-/medium-term training processes dedicated to specific target individuals and consisting of a mix of initiatives belonging to the three preceding subject areas. The proposals are addressed to both recently hired resources and ones already in service. In the latter case, they belong to homogeneous professional families, for which the training pathway aims to align capabilities, updating, training, or upgrading.

LA10 PERSONNEL TRAINING

	2010	2009	2008 (1)
Total hours of training	171,146	164,416	186,654
Average number of hours per employee	49	47	53
% coverage (2)	96	91	96

(1) The 2008 figures were calculated only for Italian employees.
(2) Percentage of employees who took at least one training course.

AVERAGE NUMBER OF TRAINING HOURS BROKEN DOWN BY EMPLOYEE CATEGORY

	2010	2009	2008 (1)
Senior executives	27	25	34
Junior executives	40	43	34
White-collar workers	47	45	55
Blue-collar workers	58	53	65

(1) The figures regard Italy. For 2008, however, considering the scarce incidence (5.6% in 2008) of the Brazilian subsidiary, the Italian figures are representative of the Group situation. For 2008 only the number of hours of training per employee in Brazil (60) is available.

Training per employee: a comparison with the leading Italian companies

To facilitate a comparison of the data and the assessment of Terna's social performance, the Company examined the information on training published by the 22 listed companies in the FTSE MIB that, like Terna, published a sustainability report or social report regarding 2009 prepared in accordance with the GRI protocol.
For 13 companies (excluding Terna) the 2009 figure on the hours of training per employee is available directly and turns out to be 27.8 (benchmark 1 in the table).
In the other 9 cases the average training hours were calculated on the basis of other published data (for example, total hours of training, number of employees, average number of days per employee). This entailed assuming in a few cases the number of hours corresponding to a day, which is conventionally 8.
Having noted this, the average number of hours for the set of 22 companies was 28.9 (benchmark 2 in the table).
Among the listed companies in the leading Italian stock index, the following have published information regarding the GRI LA 10 indicator: A2A, Ansaldo, Atlantia, Autogrill, Banca Monte dei Paschi, Banco Popolare, Buzzi Unicem, Enel, Eni, Fiat, Finmeccanica, Generali Assicurazioni, Italcementi, Lottomatica, Pirelli, Saipem, Snam Rete Gas, Stmicroelectronics,Telecom Italia, Ubi Banca, and UniCredit.

HOURS OF TRAINING PER EMPLOYEE

Terna, 2010	49
Terna, 2009	47
FTSE MIB benchmark 1 (2009)	28
FTSE MIB benchmark 2 (2009)	29

In 2010 the Company completed its bi-annual training plan, the first to be launched after the creation of the corporate university, “Campus - Experiences on the Grid”, which since 2008 has been responsible for all of Terna’s training.
At the same time, the Company initiated a complete re-examination of its training model and what it offers to satisfy as well as possible the new needs stemming from Terna’s evolution and the innovations introduced in its systems for managing and developing its human resources.
In short, **in 2010 96% of Terna’s employees took at least one course** (+0.5% compared to 2009), with more than 171,000 hours of training provided (about 5% more than in 2009), 97% of which were in a classroom and 3% online. The average number of training hours per employee was 49 (+4% compared to 2009).
All the innovations provided for by the two-year training plan were implemented during the year.
One of these innovations was the medium-to-long-term Training Pathways for university and secondary-school graduates (professionals, technical white-collar workers, blue-collar workers) hired since 2007-08, to which 21% of the total hours were dedicated. This kind of training is very important for facilitating the process of generational turnover.
The Pathway courses are partly taught by the Terna faculty – i.e. in-house managers and experts who exploit Terna’s unique know-how and ensure that it is maintained and enhanced – and partly by selected business schools and external firms.
With regard to the Pathways dedicated to employees in service, the Pathway for shift workers of the Real Time unit of the Dispatching and Management chain involved about 150 resources and totaled about 10,000 hours of training (a continuous-training soft-skills module focused on communication skills, teamwork, self-control, and stress management).
The Company revised and enhanced the Education section (about 30,000 hours), which was dedicated to the development of personal capabilities, i.e. soft skills and organizational behavior, in keeping with the Performance Management System (PMS).
Finally, a new training line was created: department/unit events/workshops consistent with the objectives of team building and a focus on specific goals. Two of them, involving about 100 employees, took place in 2010.
The more than 118,000 course hours in the Training section confirmed the Company’s commitment to the development and updating of professional, technical, and specialist knowledge, as well as cross-cutting skills. As far as safety is concerned, with about 49,300 hours of dedicated training, the activities aimed at implementing the provisions of Consolidation Act 81/08 were completed. On the other hand, activities regarding the sub-sections of the core business totaled 62,500 hours.

Live working

Work on energized lines (LST in Italian), known abroad as “live working”, is maintenance work on plants that are kept in service while the tasks are being performed. The major advantage is that this allows work to be done to prevent malfunctions. Because plants do not have to be de-energized for maintenance, the work can be done as soon as anything anomalous shows up, without waiting until it becomes so serious that it justifies a costly outage.
Live working nowadays can account for up to 80% of maintenance activities.
In Italy there are currently slightly fewer than 200 LST workers, professionals who have to be constantly and fully aware of what they are doing when they move tools or their bodies or carry out a sequence of tasks. Safety levels are higher for live working than for conventional work. After experimentation, discussions with research laboratories, and analysis of the relevant bibliography, safety procedures are developed by Terna’s LST world. In particular, the procedures assume a value that is triple the normal voltage to take into account the levels that are reached in case a plant is opened and consequently automatically closed again (re-energizing). During live working this eventuality is in any case not possible, because the procedures provide for the exclusion of automatic re-closures that occur.
Live-working linemen have to be trained for about 20 weeks to acquire the various levels of qualification, after which there is a competency exam. Training and refresher courses take place continually – mainly at the LST training center in Viverone, in Turin province – to train new personnel.
The main tasks that can be performed by live working are replacing insulators on suspension chains and fixing hot points on connections.

Development and management

Terna's system for developing and managing human resources is based on performance as an indicator for guiding growth. The essential elements of the model are the definition of the objectives and the behavior that is expected, assessment of results, feedback, and development and training actions. It includes numerous instruments that have been used at the Company for some time, such as Balanced Scorecards and Management by Objectives (MBO), but the heart of the system is the **Global Performance System (GPS)**, which was designed in 2008 and went into operation in 2009 accompanied by a training campaign addressed to all the personnel concerned.

The Global Performance System is based on a definition of performance that has two aspects. The first is the actual achievement of the pre-established objectives, while the second regards the organizational actions carried out to achieve them. A specially developed IT system accessible individually by the employees concerned records the results of the assessments and ensures that they are available over time. Performed by the person directly responsible and validated by the latter's superior, it provides for feedback, which is essential for guiding behavior, highlighting strong points and areas that need to be improved, and set in motion measures for development, such as training. The repetition of performance assessment in annual cycles allows the growth of individuals to be monitored and guided. The application of the GPS currently involves a segment of employees with managerial and professional responsibilities: all senior executives, all junior executives (except the foremen of the shifts that control the grid in real time), and some white-collar workers.

LA12 A total of 651 employees were involved in the first assessment cycle, which was started in 2009. In 2010, 686 employees – about 20% of the total corporate population – were involved. This number will gradually rise as new targets are included with the goal of increasing transparency and communication in the superiors and the employees who work under them. Therefore, in 2011 the process of gradually extending the system will continue. For blue-collar workers and other employees not included in the GPS, less structured forms of assessment are used, partly because the requirements of their jobs and the paths of professional growth are more strictly determined by the collective labor agreement.

The measurement of performance is also entrusted to other instruments. Terna has had for some time a strategic control system based on the **Balanced Scorecard** method, through which it monitors the progress made in attaining strategic economic and managerial objectives, including the main environmental and social performance objectives.

Performance measurement is also connected with the payment of variable parts of compensation. In particular, Terna has a **Stock Option Plan** for its top management, which was instituted in December 2000 and scheduled to expire in 2010, but was later extended to 2013. Among other things, the adoption of this Plan has provided the Company with an important instrument for ensuring the loyalty of the senior executives who hold the most important positions for the achievement of its strategic objectives.

The same purpose is served by the cash **Long-term Incentive Plan** for the top management and managers who hold key positions. Linked to corporate objectives, it was begun in 2008 for the subsequent 3 years.

Other variable-compensation schemes are based on annual performance objectives. **MBO (Management by Objectives)** links the sums of individual bonuses to the extent to which both corporate and individual objectives are achieved. The corporate objectives, including those regarding environmental and social performance, are formulated in connection with the Balanced Scorecard model.

Recognizing the importance of the extensive involvement of employees in the implementation of programs and plans regarding quality and productivity, Terna signed an agreement with the labor unions governing a **corporate-result bonus to incentivize labor productivity** (see also the section on Industrial Relations).

The bonus is a variable element of compensation and consists of two parts:

- "corporate profitability" linked to the Company's general performance and paid to most employees generally, with the exception of senior executives
- "incentives for productivity/quality" linked to the achievement of specific quality and productivity objectives connected with the employees' work and paid to blue- and white-collar workers.

As in other large electricity companies, the treatment of employees at Terna (pay, working hours, vacations, and other aspects of employment) is substantially better than the Italian average.

LA3 In particular, the following benefits are provided for most employees:

- supplementary health care
- supplementary pensions (voluntary participation)
- insurance for non-occupational injuries
- recreational associations
- more favorable maternity-leave conditions than those provided for by the law
- subsidized loans for purchasing a home, as well as for serious family needs
- cafeteria service or meal coupons.

The benefits are available to all employees once they have finished their trial period, including part-time employees and those with beginner contracts. Insurance coverage for occupational injuries is regulated by law and provides better conditions for specific categories.

LA8

Furthermore, Terna's employees (excluding senior executives) are automatically enrolled in the **supplementary health-care fund FISDE** (Supplementary Health-care Fund for Employees of the Enel Group). The FISDE organizes prevention campaigns for its members that include preventive examinations and sessions providing information on the main health risks. The following have been some of the topics of the information and prevention campaigns:

- smoking
- alcohol
- tumors
- cardiovascular disease
- opthamological disease
- disabilities.

The FISDE partly pays for the medical treatment of disease not only for its employee members, but also for the dependent members of the latter's families.

Beneficiaries	Information on and prevention of risks	Treatment
Workers	Yes	Yes
Families of workers	No	Yes

Diversity and equal opportunity

LA13

LA14

Terna adopts systems for selecting, developing, and paying personnel that recognize and reward merit and performance. All forms of discrimination, beginning with the selection and hiring process, are explicitly forbidden by the Group's Code of Ethics.

A large majority of employees are men, because of the traditional scarcity of the supply of female labor in the more technical occupations. However, the presence of women is increasing, partly as a reflection of the general trend of the labor market and the greater participation of women in the labor force.

Amounting to 9% in 2005, **the percentage of women employees at Terna increased from 10.2% in 2008 to 10.8% in 2010**. The increase also regarded the positions with the highest qualifications and responsibilities, with the percentage of women in managerial positions (senior and junior executives) rising from 15.1% in 2009 to 16.8% in 2010.

In Italy, during 2010 **22.6% of all newly hired employees** – net of blue-collar workers – **were women**, a percentage larger than that of the women already employed at the Company, again excluding blue-collar workers.

Several favorable kinds of treatment prescribed by the law and provided for by the industry's collective labor agreement contribute to fostering the employment of women at Terna. For example, **maternity-leave pay is higher than the law prescribes** in both the period of obligatory abstention from work (100% of the last monthly salary instead of 80%) and the period of optional abstention (45% for the first month, 40% for the second, and 30% for the subsequent three months instead of 30% for 6 months).

The most important indicators of equal opportunity for men and women show that Terna's management systems do not generate any discriminatory treatment to the disadvantage of women. The most important factor affecting female employment is the result of lower outflows and considerably higher inflows compared to men.

Women are not penalized from the career point of view. The Company's development policies reward merit without regard to gender and there are only limited differences in pay for white-collar workers and junior executives. Such differences are more significant, but declining with regard to senior executives.

Demonstrating its concrete concern for promoting the contribution of women, **in 2009 Terna joined "Valore D"**, an initiative started by several women managers from a number of important Italian and multinational companies with the objective of creating synergy and developing the professional competence of women to achieve greater opportunities for representation in enterprises. In practice, the women in these companies put their knowledge at the disposal of the women in associated companies to foster the professional development of women, as well as networking opportunities.

In 2010, the Terna women with managerial roles participated in an alignment meeting with the heads of the Human Resources and Organization and the External Relations and Communication Departments, the sponsors of the project. During the year, numerous female colleagues were chosen to participate in the training and educational events promoted by "Valore D." as opportunities for professional growth and development.

EC7 Almost all employees are Italian citizens, with only three having foreign citizenship. This figure shows, without any specific corporate policies in this regard, how rooted Terna is in the Italian economy, as well as the predominance of its Italian business even in the period that ended in November 2009, in which the Group had a stable presence in Brazil.

With regard to the presence of **personnel belonging to protected categories (e.g., invalids)**, the figure regarding Italy as of December 31, 2010 was **116 people** (114 in 2009 and 120 in 2008, amounting to 3% of the personnel for the three-year period). This number is in line with the regulations applying to Terna (in particular, the Ministerial Decrees of March 21, 1996 and May 15, 2000), which provide for a gradual increase in the quota of protected-category employees to 7% (a general legal obligation) through the hiring of a larger percentage of them out of the total number of new hires.

Finally, the following table shows the composition of Terna's 9-member Board of Directors, broken down by gender and age.

COMPOSITION OF THE BOARD OF DIRECTORS OF TERNA S.P.A.

Percentage values	2010	2009	2008
Men	100.0	100.0	100.0
Women	0.0	0.0	0.0
Less than 30 years old	0.0	0.0	0.0
Between 30 and 50 years old	44.4	44.4	66.7
More than 50 years old	55.6	55.6	33.3

EQUAL OPPORTUNITY FOR MEN AND WOMEN	2010	2009	2008 [1]
Women as % of employees			
Women/total	10.8	10.3	10.2
Women/total net of blue-collar workers	15.2	14.6	14.6
Employment growth %			
Annual change: women	5.1	-1.1	5.3
Annual change: men	0.1	-2.3	0.3
Outflows %			
Outflows: women	2.8	3.3	2.1
Outflows: men	4.8	3.9	3.8
Inflows %			
Inflows: women	7.9	2.2	7.3
Inflows: men	4.9	1.6	4.2
Employees in managerial positions			
Female senior executives as % of female employees	2.7	2.8	2.8
Male senior executives as % of male employees (excluding blue-collar workers)	2.4	2.7	2.6
Category promotions [2]			
Promotions to junior executive as % of previous category: women	0.8	1.5	3.0
Promotion to junior executive as % of previous category: men	1.1	1.2	1.2
Women/men pay difference [3]			
Senior executives	1.3	1.3	1.4
Junior executives	1.1	1.1	1.1
White-collar workers	1.1	1.1	1.1

(1) The information available for Brazil is limited to the ratio between male and female junior executives' base pay, which was 1.56 in 2008.
(2) The figure is the result of the ratio between the promotions to junior executive that occurred during the year and the employees categorized as white-collar workers in the previous year, calculated by category (men/women). Promotions from blue-collar worker to white-collar worker and from junior to senior executive were not considered, because the number was not significant on an annual basis.
(3) The figure is the result of the ratio between the annual base pay of men for the different categories and the annual base pay of women for the same categories. The figure was not calculated for blue-collar workers, because there are no women in that category.

Internal communication

Terna recognizes the essential role of internal communication in fostering the exchange of information, creating integration, promoting teamwork, and speeding up processes. Internal communication is divided into two areas. One comprises the instruments – the corporate intranet, the cascade dissemination of team-briefing information, and the house organ, *Terna News* – while the other consists of special events and projects, such as the annual We:Me convention, meetings between the top management and the senior executives, and the "CreativinTerna" Competition. The following are some of the initiatives carried out in 2010.

Restyling of the corporate intranet

Two years after the creation of *InTernamente* ("inTernally"), the corporate website was renovated graphically and its contents reorganized. Thanks to the cooperation of all the Company's departments, which provide an increasing amount of news, the home page was redesigned to host an instant web magazine, which reports live what is happening at Terna, from strategic transactions and new lines and stations to technological innovation and services for employees. The more graphic layout makes it easier to consult and read. Among the innovations are the Corporate Identity Portal, with all the materials and instructions for presenting Terna's identity and image, and the Bulletin Board, a virtual piazza for selling, buying, and exchanging. The restyling also changed the personalization of the logo *InTernamente*, which – like Google's – is graphically revised in connection with the most important corporate events.

Inauguration of the new Milan office

As with the move to the new headquarters in Rome in 2009, the transfer of 140 people from the Company's three offices in Lombardy to a single new one was accompanied by a carefully planned internal communication project. A precise schedule of operating notices issued from the "New Office" e-mail box and a welcome brochure – whose corresponding CO_2 emissions were offset by the "Zero Impact" project in partnership with Lifegate – distributed before the move to make the new area and office familiar, preceded the program dedicated to the first day in the new office.
In effect, when they arrived at the new office, the employees found breakfast prepared for them, a series of orientation meetings with the heads, who provided them with all the useful information, and a welcome kit containing useful, eco-sustainable objects. The process was accompanied by articles in the house organ, *Terna News*, and the team briefing. The "New Office" e-mail box stayed active for two months after the move to collect reports and suggestions, which were promptly responded to.

Third edition of the "CreativinTerna" internal photography and drawing competition

In the International Year of Biodiversity, the CreativinTerna art competition for employees (photography) and their children (drawings) was dedicated to the theme of "Our energy for the environment". There were three times as many photographs and twice the number of drawings as in the first edition. This edition was held in partnership with the WWF Italy for the protection of the sea turtle, which emerged as the safety mascot from the previous edition with the winning drawing *Ternaruga* (from the Italian for turtle, *tartaruga*). Terna thus transformed every entry in the competition into the nominal adoption of a sea turtle, donating a sum to the WWF Italy's "Adopt a Turtle" project. Consisting of Terna's Chairman, Luigi Roth, and personalities of the world of photography and art, the jury chose the winners, who saw their works used for corporate materials (the 2011 diary and calendar) and reproduced in prestigious publications. An innovation this year was a moleskin-style notepad with drawings by the kids, which was distributed to all employees, together with a soft toy Ternaruga, the safety mascot, made by a famous company.

The little sustainability book

To tell about Terna's sustainability clearly and directly, emphasizing the strong points of our commitment: This was the objective of *Our Energy Supports the Future, Responsibly*. The publication was conceived to summarize the key concepts of the Sustainability Report for employees and, after being distributed in advance to senior executives during their periodical meeting with the top management, was attached to *Terna News*. The house organ also hosted an article by the head of External Relations and Communication to explain the purpose of the little book.

The We:Me Meeting turns five

Stories of volunteer work by employees were the thread running through the fifth edition of We:Me, the annual meeting of the Company's junior and senior executives. The Kami Project (see the box on page 163) and the presence of volunteer colleagues at the event strongly characterized the narration of Terna's history through the title of the meeting: "Yesterday, today, and tomorrow".

EU16 Occupational health and safety

Terna's commitment to safety should be seen in the context of the current regulations. Revised in 2008 by Legislative Decree 81/2008 ("Consolidation Act regarding the safeguard of occupational health and safety"), Italian legislation on safety is among the most stringent in Europe. The obligations for companies regard many aspects: training, risk analysis, identification of the chain of responsibility beginning with the employer, protection procedures and devices, and monitoring of activities, including those entrusted to contractors and subcontractors. One of the most important obligations is to perform an analytic assessment of regarding the health and safety of workers. This assessment must regard not only the specific risks of the single activities, but especially those deriving from the interference of the works carried out by contractors and subcontractors for all the activities that make up the work process of the construction site. The costs for eliminating or attenuating the risks are excluded from the price competition for the award of contracts.
The risk analysis – which must also include the risk of stress connected with the work – must be performed by the employer in cooperation with the head of the prevention and protection service and the competent doctor after consultation with the workers' safety representative.
In this situation, Terna's emphasizes the following points regarding occupational safety:

- **Clear safety-policy guidelines:** The importance of protecting people from physical harm is stated in Terna's Code of Ethics, which identifies the essential principles that everyone, at the different organizational levels, must observe so that policies, procedures, technologies, and knowledge contribute to the awareness and prevention of risks. The Company's Occupational Safety Policy, which is an integral part of the integrated quality-environment-safety Management System specifies the guidelines of the Code of Ethics, emphasizing in particular the importance of continuing training and cooperation with the competent entities in order to gradually improve. The Company also expresses its commitment to promoting the prevention of injuries for all employees, including those of contractors.
- A **safety & security portal** on the corporate intranet containing an up-to-date and complete **file of legislation** regarding occupational safety (national and regional regulations, technical standards issued by competent entities). Through the portal it is also possible to access an online service providing advice regarding the interpretation of regulations and the procedures for applying them, as well as a file of the control programs and the related results. A "construction-site management" area is currently being created, which will facilitate performing safety and security obligations on construction sites and will enable the Company to constantly monitor contract work.
- An **organizational unit responsible for safety**, with the corporate Safety Department in charge nationally and heads in the local offices (AOT heads, heads of Safety, Prevention, and Protection) and on construction sites. The unit also performs direct inspections of work places and construction sites. As provided for by the law, employers, including the AOT heads, have unlimited authorization for expenses regarding occupational safety. In 2009-2010, a project was implemented for monitoring and checking the application of the corporate policies and procedures regarding safety, which also concerned construction sites and contract work. The implementation of the project entailed the temporary use of several "Corporate Safety Inspectors" (RSA) reporting directly to the corporate Safety Department. The RSA cooperate with the local heads in carrying out integral monitoring regarding safety, including construction sites and contract work. Their work enabled the Company to further improve its ability to analyze and check the safety aspects of its operations, with the aim of continually improving.
- An **OHSAS 18001-certified management system** (certification obtained in 2007 and confirmed in 2010, covering 100% of the Company's activities). The system is integrated with the quality-and-environment one and is based on scrupulous **risk mapping**. The Risk Assessment Document prepared by the employer and the Head of Safety, Prevention, and Protection and examined by the competent doctor shows the seriousness and probability of occurrence of specific risky events for each role and activity performed by Terna's employees. The management system consists in a methodical and detailed collection of **Operating Procedures and Instructions** – which are also available through the corporate intranet – on all the activities regarding safety (training, work methods, use of individual safety devices), with greater detail for the activities that entail electrical risk (Instructions for the Prevention of Electrical Risk – DPRET) and work high above the ground (methods of climbing towers).

In 2010 there were significant innovations regarding these two activities:

- Terna voluntarily submitted the new edition of the DPRET for external assessment by the I.N.R.I.M. (National Institute of Metrological Research), a scientific institute under the Ministry of Education, Universities, and Research, which issued its positive opinion in September. The DPRET is an essential document for Terna and the Ministry's recognition confirms the complete soundness of the Instructions provided with regard to both the regulations concerning the safeguard of occupational safety and security and the regulations on the operation of electric plants.
- As far as the Operating Instruction "Climbing towers and off-the-ground aid on HV electric lines" is concerned, Terna asked INAIL, the National Institute for Aid for Occupational Injuries – pursuant to article 2, paragraph 1, letter V of

Legislative Decree 81/08 – to recognize the Company's "good practice", through which the Operating Instruction will also become the benchmark for the external compliance checks performed by the supervisory authorities, including those regarding contractors.

- **Intense supervisory activity**: The correct and complete application of the procedures is subject to inspections by the RSPP (two a year in their respective AOTs) and **internal compliance checks** on all the Local Operating Areas, as well as the constant supervision of employers. The **external checks** required for the confirmation of certification increase diligence regarding safety issues and the observation of behavioral rules, as do the elected representatives of the employees entrusted with checking the application of the regulations. (On the Workers' Safety Representatives, see the LA6 indicator.) In 2010, the Company finished the **construction-site monitoring** begun in 2009, which concerned the most important construction sites – about 100 in all – where work was being done on behalf of Terna. Performed with the assistance of a specialist external company, the monitoring aimed to ensure full compliance with the formal and substantial requirements regarding safety and to produce monitoring reports useful for improving the system and ensuring that it is in keeping with the managerial best practices found.
- Intensive and continual **information and training**. All employees are informed about the main ideas and innovations regarding safety through various channels, including the corporate intranet and the organization of informative meetings. The annual training program always includes programs at the general corporate level and specific supplementary ones at the local level, based on risk analysis. The courses cover all safety issues, from changes in regulations to the Operating Instructions for all risky activities (e.g., off-the-ground work, the use of individual protection devices). In particular, equipment at the **Viverone Training Center**, in Turin province, enables the Company to train workers to safely climb towers (through the use of full-size training towers) and to perform live work in a controlled environment. Constant commitment to informing and training employees about safety aims to ensure that they are familiar with the risks and with the systems of prevention, but above all to disseminate the values of safety to ensure that they make informed choices when they act. In 2010 the Company completed the 2009-2010 Activity Plan promoted by the corporate Safety Department in cooperation with the Human Resources Department to apply the updates provided for by Consolidation Act 81/2008. Furthermore, during the year all of 5,000 hours of training were dedicated to safe driving, a program that will be further developed in 2011 with courses on driving at night and on ice. Finally, in 2010 the Company began to train all employees involved in applying the new Instructions for the Prevention of Electrical Risk (DPRET).
- The inclusion of **performance objectives regarding occupational safety** in the system of indicators to which the variable compensation of the departments concerned – Corporate Safety, Human Resources and Organization, and Plant Maintenance – is linked, in particular the objective of improving the safety level, which aims to reduce injuries through an "occupational-safety index" consisting of the injury rate and the lost-day rate, measured at the level of Terna's single Operating Areas.
- **Applied research**: A specific organizational unit of the Engineering Department experiments with safety materials and devices, testing their reliability through resistance trials in extreme conditions.
- Concern for safety conditions with regard to the **contractors** that perform work on construction sites on behalf of Terna. The protective measures introduced or strengthened by Legislative Decree 81/08 in contract work to construct overhead lines and electric stations – see the "Relations with suppliers" section in the chapter on Economic responsibility – require, among other things, a declaration that all the personnel on the construction site has been informed about and trained in the use of the individual protection devices and the risks established in the Construction-site Safety Plan (PSC) and the Operating Security Plan (POS) prepared by the companies.
  For several roles – e.g., workers assigned to the mounting and maintenance of lines, cutting vegetation, and painting, construction-site and squad foremen, and safety heads – Terna requires additional certification that they have received between 24 and 32 hours of training for their roles designed in cooperation with training institutes specialized in the field of electricity and SINCERT-certified.
  Finally, during the supplier qualification process, Terna requires that candidate companies have documented procedures for protecting the health and safety of workers. In particular, for companies in categories considered most significant with regard to safety and the environment must fill out a detailed questionnaire regarding specific organizational and procedural elements and aspects capable of ensuring good management practices in addition to compliance with all provisions of the law.

2010 activities

In addition to the activities mentioned so far, in 2010 the Company continued the **"Analysis of the context and identification of the incentives capable of fostering safe occupational behavior"** project. Started in 2009, this project aims to enable the Company to learn about its employees' opinions and sensations regarding safety. In addition to surveying the employees' degree of awareness of Terna's commitment, the initiative constituted an opportunity for gathering ideas and incentives that could lead to safer behavior at work. The investigation was carried out through anonymous interviews in 5 local areas so as to ensure significance both from the geographical point of view and in terms of the coverage of technical roles. The sample of 146 employees constitutes 48% of the personnel with the positions considered in the 5 areas. The analysis regarded both the context and the nature of the work and showed that **employees are aware of the Company's investment in the values of safety**. Training, meetings, and the possibility of sharing results are considered positive and are encouraged by employees. In the light of the results achieved by the project, the Company decided to continue the survey in 2011, doubling the sample and covering all the remaining geographical areas in which Terna operates. The results of the first part of the project were disseminated among the Company's management with the aim of promoting actions that meet the needs indicated by the survey.
With regard to work-connected stress, an Operating Instruction was developed that provides guidelines for detecting and analyzing stressful conditions not only through objective corporate indicators, but also by considering the individual and social aspects of employees. In the analysis of the objective aspects, an appropriate checklist was used to allow the risk level to be quantified according to a low/medium/high parametric scale.
Also in 2010:

- The Company's OHSAS 18001 certification was confirmed.
- In compliance with the law, the RSPP and the AOT heads performed 130 inspections and the competent doctor made about 281 visits to work places.
- Five internal audits were performed at the local level, with each of them involving three auditors for three days.
- Periodical preventive medical examinations were also performed for atypical workers, as provided for by Legislative Decree 81/08.
- There were 49,222 hours of training on safety.

HOURS OF TRAINING ON WORKERS' HEALTH AND SAFETY	2010	2009	2008 (1)
Senior executives	175	232	207
Junior executives	3,897	2,781	3,122
White-collar workers	20,265	18,781	28,265
Blue-collar workers	24,885	24,743	38,875
Total	**49,222**	**46,537**	**70,469**

(1) The numbers regard Italy. Given the scarce incidence of the Brazilian subsidiary's personnel (5.6% in 2008), the Italian numbers for 2008 are representative of the Group's situation.

The number of hours of training on safety increased with respect to 2009 (+ 6%).
In 2008 the large number of hours of training for white- and blue-collar workers was connected with the necessity of informing all those concerned about the changes made in the DPRET (Document on the Prevention of Electrical Risk at Terna) following the introduction of new technical standards. In 2010, a new information campaign on the DPRET was launched in consequence of the implementation of Decree 81/2008 and additional regulatory revisions. The courses will take place mainly in the first half of 2011.

LA7 Occupational injuries

As in the previous year, in 2010 there were no fatal occupational injuries. Although higher than in 2009, the total number of injuries was in line with 2008 and does not constitute a growth trend. The injury rate shows limited fluctuations over time, while the absentee rate confirmed the downward trend. There were no hours of absence attributable to occupational disease, because – according to the official list – the kind of work performed at Terna is not associated with the possible onset of professional diseases. Therefore, the occupational disease rate at Terna should always be considered zero.
No fatal occupational injuries were recorded nor cases of fatal or serious injuries – even ones that occurred in previous years – for which in the three-year period considered it has been definitively established that the company was in any way responsible.
It should also be noted that in the period 2008-2009 no fatal occupational injury occurred at the Company's Brazilian subsidiary, Terna Participações.

In 2010 Terna consolidated its internal procedures for reporting injuries of employees of contractors and subcontractors, monitoring all the construction sites (instead of just a sample, as in the experimental survey of 2008) and recording all kinds of injuries (instead of only fatal and serious ones, which had been duly presented in the previous editions of the Sustainability Report). As in the case of Terna's employees, in 2010 there were no fatal injuries among the employees of contractors and subcontractors.

OCCUPATIONAL INJURIES - TERNA EMPLOYEES
GRI-ILO DEFINITIONS [1]

	2010	2009	2008 [2]
Injury rate	1.56	1.21	1.72
Lost-day rate	58.4	40.0	329.1
Absentee rate [3]	7592.6	8101.3	9442.0
Occupational disease rate	0.0	0.0	0.0
Number of injuries	50	36	50
- fatal	0	0	1
- serious	2	0	1

(1) As required by the GRI protocols, the definitions adopted are those of the International Labour Organization (ILO). To facilitate comparison with other sources, the following notes provide the values of the same indicators calculated according to alternative formulas. It was not considered necessary to further break down the figures at the regional level, because Terna operates only in Italy.
The **injury rate** is the number of injuries with at least one day's abstention from work divided by the number of hours worked during the year and multiplied by 200,000 (corresponding to 50 work weeks x 40 hours x 100 employees). To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000,000 instead of 200,000 (consequently obtaining an injury rate five times that of the ILO). According to the latter calculation, the injury rate was **7.8 in 2010, 6.1 in 2009, and 8.6 in 2008**.
The **lost day rate** is the ratio between the number of days not worked because of injury and the number of hours worked during the year multiplied by 200,000. Days not worked are calendar days and are counted from when the injury occurred. To facilitate comparison with other sources, this indicator was also calculated use a multiplication factor of 1,000. According to this way of doing the calculation, the lost day rate was **0.3 in 2010, 0.2 in 2009, and 1.7 in 2008**.
The **absentee rate** is the number of days of absence because of illness, injury, or strike out of the number of days worked in the same period multiplied by 200,000. To facilitate comparison with other sources, this indicator was also calculated as a percentage of the days worked. According to this way of doing the calculation, the absentee rate was **3.8% in 2010, 4.1% in 2009, and 4.7% in 2008**.
The **occupational disease rate** is the total number of cases of occupational disease divided by the number of hours worked in the year, multiplied by 200,000.
(2) The data shown in the table regard Italy. It should be noted that in the period 2008-2009 no occupational injuries occurred at the Company's Brazilian subsidiary, Terna Participações.
(3) The reasons for absence considered do not include maternity leave, marriage leave, study leave, leave for union activities, other cases of paid leave, and suspensions.

OCCUPATIONAL INJURIES OF CONTRACTOR AND SUBCOONTRACTOR EMPLOYEES
GRI-ILO DEFINITIONS

	2010	2009	2008 [1]
Occupational injuries	14	na	8
- serious	5	1	0
- fatal	0	1	2
Injury rate [2]	0.85	na	1.23

(1) The values were calculated only for Italian contractors and subcontractors.
(2) This is the number of injuries with at least one day's abstention from work divided by the number of hours worked during the year and multiplied by 200,000 (corresponding to 50 work weeks x 40 hours x 100 employees). To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000,000 instead of 200,000 (consequently obtaining an injury rate five times that of the ILO). According to the latter calculation, the injury rate was **4.2 in 2010 and 6.2 in 2008**.

Industrial relations

The industrial relations between Terna and the labor unions that represent its employees take place at both the electricity-industry level and the Company level.

LA4 All of Terna S.p.A.'s employees are covered by a **collective labor contract** adopted by the companies in **the electricity industry** (in Italian, the CCNL - the National Collective Labor Contract for employees in the electricity industry). This contract governs many aspects of employee pay and benefits, such as, for example, the minimum pay for the different professional categories, the treatment of shift workers, vacations, overtime, supplementary health care, and supplementary pensions. Terna participates in establishing the industry's rules, because it is part of the employer delegation that negotiates the renewal of the contract with the labor unions. The three-year CCNL in effect was signed on March 5, 2010 and expires on December 31, 2012.

HR5 The relationship with the industry unions also gives rise to the **regulation of the indispensable tasks** that must be performed **in the event of a strike** to ensure the continuity of the service. At Terna, this issue is governed by the National Union Agreement of November 12, 1991, which implements Law n. 146 of June 12, 1990 regarding the exercise of the right to strike in essential public services and was approved by the watchdog committee for the aforesaid law.

Among other things, the agreement provides in any case for the exemption from strikes of the personnel that is indispensable for supplying the service and entrusted with short-term planning, as well as the operation and maintenance of the production and transmission system. With regard to such provisions, at Terna this exemption concerns in any case the shift workers of the National Control Center, the Grid Services and Production-Plan Services, the Distribution Centers, and the Plant Remote-control Centers.

As far as employees on call are concerned, the agreement in question provides that, although they have the right to suspend their normal work during a strike, they are obliged to be on call throughout the duration of said strike. As long as strikes are called in accordance with the provisions of the law, there are no limitations on Terna employees' exercise of their right to strike.

It should be noted, however, that when the CCNL was renewed on March 5, 2010 guidelines were established for the subsequent definition of the new regulations regarding the right to strike in the electricity industry. These guidelines confirm the principle of service continuity in the event of a strike and introduce on an experimental basis innovative elements regarding strike procedures for personnel on call.

LA6 The renewal of the CCNL provided for the institution of a bilateral, industry-level organism on "Health, Safety, and the Environment", with the task of enhancing the safeguard of occupational safety, beginning with common objectives agreed
LA9 on by the parties. In particular, the organism is to make proposals, monitor, and coordinate training regarding environmental and safety issues. Provision was made for the possibility of establishing – in companies with more than 500 employees – bilateral corporate committees to work in cooperation with the industry organism.

Employee involvement in matters of health and safety is currently regulated by the law, which provides for Employee Safety Representatives (RLS) to be elected by all the employees. The RLS thus represent 100% of the employees and their number varies according to the number of the company's employees and offices. Their role involves seeing that regulations regarding the health and safety of workers are applied. During the aforesaid renewal of the CCNL, the role of the RLS was expanded to include environmental issues, so they are now RLSA.

Representatives can ask the Company to carry out inspections and are consulted about risk evaluation and the identification of preventive measures. At least once a year they participate in meetings with the employer and other corporate figures responsible for health and safety to examine the appropriateness of the individual protection devices and training programs, as well as the repercussions of new technologies.

In March 2009 Terna and the Company unions signed an application agreement, while in June 2009 elections were held for the new RLS for all of Terna's local units. The new RLS for the Company's offices in Rome were elected in October of the same year.

The aforesaid corporate agreement of March 2009 is only one of the numerous elements of the **relationship between Terna and the unions at the Company level**. The industrial relations in the Company are based on the involvement of the unions in the main aspects of corporate life, the distinction of roles and responsibilities being understood. Union relations at the Company level are governed by the *Protocol on the system of industrial relations*, which establishes a structured system of relations regarding advance and/or periodical negotiation, discussion, consultation, and information.

The **employee union membership rate at Terna S.p.A. in 2010 was 61.2%**, which is high compared to the industry average, but represented a slight decrease compared to previous years. Membership is concentrated in the largest unions, which determines the absence of fragmentation in union representation and constitutes the condition for a high-profile system of industrial relations. Management of the *Protocol of industrial relations* has enabled the parties to develop and consolidate an effective network of relations at all levels, thus allowing the processes of change of significant corporate interest to be governed.

In the three-year period 2008-2010 bargaining with the industry labor unions led to the **signing of 33 agreements**. Pending the establishment during second-level bargaining of the regulations for the three-year period 2011-2013, with particular regard to 2010, a significant event was the signing of the agreement with the national union leadership concerning the rules and economic appropriation for the *Performance Bonus* for 2010.

LA5

Finally, advance discussions were held regarding the new organizational structure of the Dispatching and Management, Grid Development and Engineering, and Procurement and Contract Work Departments. The **involvement of the unions in the event of organizational changes** is one of the essential aspects of industrial relations, and it is regulated by provisions of the law and the industry contract, as well as agreements at the Company level. According to the law, in the event of mergers, acquisitions, and other significant changes in the company's ownership structure as specified by the law itself, the workers' representatives must be informed and consulted no less than twenty-five days prior to binding agreements.
In accordance with the union agreements in effect at Terna, in the event of significant organizational changes preliminary discussions with the unions must be held, to be concluded within three months. The Company is required to make available all the documentation necessary for the union representatives to obtain a complete view of the organizational project in order to make observations and proposals. At this stage, the preliminary information remains at the collective level. Individual employees are informed in advance only if the organizational change entails their transfer to a different office. In this case, workers must be informed in writing at least thirty days in advance.

SOCIETY

Our approach

Terna is an infrastructure company that is strategic for the Italian economy and provides a public utility service. Society – understood in both a general sense as the recipient of Terna's service and a local sense as the communities more directly affected by projects for developing the transmission grid – is an essential stakeholder.

S01 Terna's approach to the local communities that host the construction of new infrastructure is discussed in depth in the chapter "Environmental responsibility", because the visual and landscape impacts are the most significant ones of such activity. In this chapter, instead, other possible impacts – e.g. legal ones – on individuals and on society are discussed.

EU20 The construction of new electric lines does not involve the physical displacement of people or entire communities, but only the use of from about 30 to about 250 square meters of land – usually agricultural land – for every pylon. Terna's use of innovative solutions, such as, for example, single-pole pylons, tends to diminish the physical encumbrance, as well as the visual impact, of new lines.

Even though Terna is authorized by the law (Law n. 1775 of 1933 and Presidential Decree 327/2001 – Consolidation Act on expropriations) to use an expropriation procedure to obtain the land, the Company prefers solutions based on mutual consent, paying a one-off compensation for the line's right of way through private property (mounting pylons, installing overhead conductors, laying underground cables). In this case, the owner will no longer be able to use the land physically occupied by the pylons, it being understood that in the event the lines are dismantled, the land will again be at his complete disposal.

EU22 The pursuit of a consensual solution fails only in a minority of cases. When that happens, it is necessary to use coercive measures. In the three-year period 2008-2010, Terna constructed about 350 km of electric lines, which entailed obtaining easements from about 9,600 land owners (3,586 in 2010, 3,734 in 2009, and 2,283 in 2008). In 27% of the cases it was necessary to use a coercive easement procedure.

When Terna constructs a station, which occupies much more land, the Company normally purchases the necessary land.

Considering its role as the provider of a service to society and the regulatory context in which it operates, Terna complies scrupulously with the laws and regulations that concern it.

In keeping with this fair and respectful approach, Terna considers the identification and implementation of social, humanitarian, and cultural initiatives to be an integral part of its mission, as a concrete sign of participation in the civil development of the communities in which it operates.

As provided for by its Code of Ethics, in its relations with institutions and associations, Terna represents its interests in a transparent, meticulous, and consistent manner, while avoiding collusive behavior.

HR1 Human rights

HR4

HR5

HR6 The subject of human rights has particular significance only for companies that are based or have operations in countries where respect for such fundamental rights is not guaranteed.

HR7 The Terna Group operates in Italy, where the legal framework and the level of civil development amply guarantee respect for human rights, freedom of association, and collective bargaining, thus making it superfluous for a company to dedicate particular attention to these issues, with the implementation of special management policies.

HR9 The only other country in which Terna has operated – through subsidiaries and until November 2009 – is Brazil, where the law guarantees the observance of the main declarations and conventions of the United Nations and the International Labour Organization (ILO). It should also be noted that, according to the FTSE4GOOD Advisory Committee and the information contained on the ILO website, Brazil is not considered a country at ethical risk for human rights. Finally, with regard to Brazil it should be noted in addition that:

- No incidents of discrimination or violations of the rights of indigenous peoples were ever recorded.
- Child labor was not considered a specific risk to monitor, not even – given the specialist nature of the tasks and the direct supervision of the construction sites – for outsourced work.

Since 2006, Terna has adopted and incorporated in its Code of Ethics the principles of the Global Compact, thus establishing a benchmark – an insuperable limit – for all the situations in which the Company might operate in the world. This commitment was further strengthened in December 2009, when the Board of Directors resolved to formally join the Global Compact. It being understood that the problem does not currently exist, the managerial responsibility for human

rights is in principle within the sphere of the Human Resource and Organization Department, while – considering that many aspects regarding human rights are dealt with in Terna's Code of Ethics – the Audit Department is entrusted with ensuring that the rules are correctly applied. Finally, the Corporate Social Responsibility Unit tracks changes in external references (e.g. international conventions), with an eye to, among things, possible Company activities in other countries in the future.

The safeguard of legality and the prevention of corruption

At Terna, the prevention of corruption is a strategic activity which meshes with the internal control systems. Legality and honesty are two of the general principles on which the Code of Ethics and the conduct of the Company's business are based. Terna's strategy in this regard focuses on three major areas:

Risk management: In 2001 Terna adopted a Compliance Program pursuant to Legislative Decree 231/01 (Model 231), a set of always updated guidelines, procedures, training commitments, and control mechanisms which forms an integrated system for the prevention of specific risks, including the crimes of corruption.

During the period 2008-2010, the Audit Department examined all the corporate departments (100%) and the Company's subsidiaries several times with regard to the different kinds of risks, including those concerning corruption, and produced audit and risk-assessment reports for corporate processes and departments at risk. S02

Monitoring: The Security Department's Fraud Management Unit performs tasks regarding:

- the prevention and management of crimes, carried out through:
  - the systematic analysis of the preconditions characteristic of incidents of fraud, identifying the critical areas in which the phenomena can be favored and possible causes organizational and operating aspects of processes
  - the elimination of shortcomings in the control system
  - ensuring that the prevention systems are not deactivated from within or without
- checking and assessing new parties in transactions with the aim of containing the related risks
- in accordance with the Protocols of Understanding signed with them, sending to the prefectures and the financial police data, information, and news on contractors and subcontractors in order to prevent criminal infiltration of construction work on the infrastructure of the National Transmission Grid.

Personnel training: Every year Terna organizes training courses on the Code of Ethics and Model 231. The objective of these courses is to ensure, at all the corporate levels, awareness and the dissemination of the rules of behavior and the procedures established for the prevention of crimes and to inform and train the personnel regarding the areas at risk of crimes and the potential crimes with regard to the activities performed, as well as to present the principles of behavior and implementation of Model 231, with specific regard to the areas and activities identified as at risk. In 2009, awareness regarding the Code of Ethics was also increased through a dissemination campaign addressed to the first reporting lines and, in cascade, all employees during the institution of an Ethics Committee aimed at facilitating internal discussion of ethical issues. S03

In March 2011, the Security Department published and distributed to all employees a manual entitled "Legislative Decree n. 231 of June 8, 2001 - Organizational model and procedure management" to further support information and training activities regarding the subject.

The following table shows the data on the employees who attended the courses on Model 231 in 2009 and 2010 (in 2008 the courses were not held).

COURSES ON MODEL 231	2010	2009
Participants in the course		
Number of participants	1,073	1,053
- senior executives	26	12
- other categories	1,047	1,041
% coverage		
Out of total	30.9	30.6
Senior executives	44.1	18.5
Other categories	30.7	30.8

S04 In 2010, as in the three preceding years:
- there were no cases of litigation regarding corruption
- there were no disciplinary penalties for incidents of corruption
- there were no ascertained reports of violation of the Code of Ethics with regard to corruption.

As of December 31, 2010 no legislation regarding corruption was pending.

S05 Relations with institutions and associations

The strategic nature of Terna's business makes it necessary for it to engage in a continual dialogue with government at both the national and local level and with local communities, as well as to listen to the requests and needs expressed by institutions and the public at large, which also leads the Company to participate in hearings, meetings, conferences, and forums with institutions and stakeholders. In addition, the Company constantly monitors both national and local legislative activity.
During 2010, Terna's top management took part in the Senate's Environment and Environmental Asset Committee's fact-finding inquiry for the purpose of examining a legislative decree with provisions to correct and supplement environmental regulations (Legislative Decree n. 152 of April 3, 2006).
On that occasion the Company's representatives described its commitment in taking environmental considerations into account when preparing the Development Plan for the National Transmission Grid with the application of the Strategic Environmental Assessment and discussed the problems connected with combining the aforesaid environmental considerations with the need to develop the electricity system.
During the year the top management met with the institutional world to discuss issues that are particularly important for the Company, such as the investment in Italy included in the Development Plan for the electric grid. On these occasions they had the opportunity to highlight the problems caused by the uncertainty regarding how long it takes to obtain authorization for a given project. Solutions were identified that allowed the situation regarding several works that were urgent for the country to be resolved, thus also creating the conditions for improving the environment by demolishing a number of kilometers of existing lines, reducing losses of electricity, and consequently reducing CO_2 emissions.
The discussion also focused on the growth of the field of renewable energy and the conditions through which this new energy can be injected into the electric system. Beginning in 2011 the Development Plan will contain a section dedicated to the infrastructure necessary to improve the dispatching of the electricity produced from renewable sources and thus adjust the plans for development to the requirements that are emerging from power generation that is more spread out over the country. Furthermore, Terna discusses with institutions to offer its cooperation on initiatives aimed at ensuring the transparency of the renewable-energy market. In keeping with these commitments expressed in the Code of Ethics, Terna cooperates, discusses, and supports the work of the associations to which it belongs to contribute to the general improvement of the electricity industry and its regulations and technical standards.

Participation in associations

Terna continues to be a member of Confindustria, the most important association representing the interests of Italian enterprises. In April 2008 Terna also signed a Protocol of Understanding with the ANIE (the National Federation of Electro-technological and Electronic Companies), which is a member of Confindustria. The three-year agreement provides for common initiatives aimed at institutional and financial interlocutors and the operators of the electric grids of other countries of common interest with regard to their respective objectives of international growth. The ANIE undertakes to encourage its members to provide, at Terna's request, technical advice about foreign markets and to facilitate the exchange of information and statistical data to improve knowledge of markets of interest.
Terna also participates actively in the CEI (Italian Electro-technological Committee), an organism entrusted with tasks regarding the industry's technical standards. Terna employees with technical roles often belong to professional associations whose purpose is to keep their members up to date, such as, for example, the CIGRE (*Conseil International des Grands Réseaux Électriques*) and the AEIT (Italian Federation of Electro-technology, Electronics, Automation, Information Technology, and Telecommunications), which bring together electrical engineers and other industrial specialists.

Community initiatives

EC1

In keeping with its intention to return value to civil society and local communities from its activities of developing and maintaining the electric grid throughout the country, in 2010 Terna confirmed its support for social, cultural, and environmental initiatives.
Terna's corporate giving activities consist mainly in financial support for charitable initiatives in the form of donations and sponsorships. In addition it dedicates resources to organizing its own community initiatives, such as the Terna Prize – on which see the dedicated box on page 166 – the transfer of corporate property, and the support provided in the form of work dedicated by Terna employees to a number of initiatives, in particular the paid hours devoted to volunteer activities.
As provided for by Terna's Code of Ethics – see page 35 – contributions are never made to political parties or their representatives

SO6

To have accurate reporting on these matters at its disposal for both internal monitoring and external comparison, Terna joined the London Benchmarking Group (LBG), an international group of companies engaged in corporate giving that developed the standard of the same name for classifying community initiatives and the related inputs (cash and in-kind donations, employee time) and outputs (benefits actually generated by the initiatives for both the ultimate beneficiaries and the company).
The following table shows the aggregate community initiatives, classified for the first time according to the LBG model, carried out by Terna in 2010.

COMMUNITY INITIATIVES 2010

Values in euro

Total value of contributions (excluding internal overhead costs)	**1,558,826**
Composition by kind of contribution	
In money	1,436,743
In kind (free-of-charge transfers of corporate property)	34,547
Work time	87,535
Composition by kind of initiative	
Gifts	808,085
Investment in the community	114,283
Commercial initiatives in the community	636,458
Composition by purpose	
Education and youth	81,297
Health	35,086
Economic development	171,575
Environment	32,240
Art and culture	751,644
Social welfare	66,250
Support for emergencies	5,000
Other	415,733

The application of the LBG model entails discontinuity in this regard with the previous Reports. The latter provided the figures regarding donations and sponsorships, which in 2010 amounted respectively to 575,035 and 958,667 euro (659,425 and 1,100,458 euro in 2009). To allow at least a partial comparison, it should be noted that:

- The donations have been broken down into gifts and investments in the community (projects that are more structured and enduring). In particular, the latter group includes the "Kami" and "Vote your value" projects, which are described in their respective boxes.
- Sponsorships – i.e. expenses for initiatives of other parties that contractually provide for a return in terms of visibility for the Company – were normally classified as commercial initiatives, with half their contractual value being recorded as an estimate of the contribution actually enjoyed as a benefit by the beneficiary. However, in cases in which the contribution went to a non-profit organization and – as in donations – was essentially given for support and for noncommercial

reasons, the entire sum of the sponsorship was recorded as a gift.

EC8

- The donations in kind in 2010 consisted in the transfer free of charge of machines no longer useful to Terna (e.g. diesel generators) to non-profit organizations, which have used them in their own charitable projects. This category includes, among others, the support for the project to electrify Kami, in Bolivia, and the horticultural project with pumping powered by solar panels organized in Nigeria by a network of municipalities in Piemonte called Recosol (*Rete dei Comuni Solidali*).
- Work time – valued at the Company's average cost per hour – consists in the granting of paid leave for employees who work as volunteers on projects of non-profit organizations. In 2010, most of the leaves (77%) regarded the electrification project in Kami.

Artistic and cultural initiatives are the area with the highest concentration of Terna's community initiatives, reflecting – among other things – the Company's long commitment in organizing the Terna Prize for contemporary art (see the dedicated box in this section). Support for environmental causes, instead, is normally connected with the construction of new lines. The valuation of Terna's commitment in this area must therefore consider expenses for the environment, as well as the expenses classified according to the LBG model (see the dedicated section on pages 133-134).

The most important initiatives of 2010 – the electrification project in Kami, the "Vote your value" project, and the Terna Prize 03 – are described in dedicated boxes in this section. Among the other initiatives were the following.

- **Centennial of Confindustria.** A member of the committee promoting the celebrations of the centennial, Terna supported the initiatives with which Confindustria fêted its first hundred years. From publications and exhibitions of contemporary art and photography to large conferences, this anniversary was an opportunity for emphasizing the entrepreneurial spirit and the ability to get things done, essential values of Confindustria and the entire Italian productive system.
- **40th National Conference of Young Entrepreneurs on "Responsibility and reforms for a different future for Italy"** (Santa Margherita Ligure, June 11-12). The issues on which the young Italian entrepreneurs focused at their 2010 national conference – interpreting the dynamism and speed of change as decisive factors of competitiveness and growth, investing in the new generations understood as a primary value – are perfectly in keeping with Terna's values and actions.
- **1st Smart Grid International Forum** (Rome, November 30-December 1). Terna supported the initiative organized by the ANIE (National Federation of Electro-technological and Electronic Companies) and Wec Italia Master to bring together enterprises, institutions, and associations for discussion of the most important Italian and international projects on smart grids and promote a summary of the main institutional meetings on the subject held in Europe, the U.S.A., and South America.
- **4th edition of the Pimby (Please in My Backyard) Prize.** Conceived by the association of the same name, this is an award given to the local governments that promote a culture of sustainability of getting things done by constructing works on their territory with the agreement of the inhabitants and in compliance with the relevant regulations. Terna supports the prize to foster a sustainable approach based on consultation with local communities.
- **National Conference on Biodiversity** (Rome, May 20-21) and the **International Biodiversity Day** (Rome, May 22), both of which were promoted by Ministry of the Environment and the University of Rome "La Sapienza".
- **Connectivity 02.** This is the internationalization project of the Terna Prize 02 for interconnecting Italian and foreign artists to share and exchange experiences, encourage the creative talent of up-and-coming artists, and promote them at the international level. Supported by the Ministry for Cultural Assets and Activities and developed in cooperation with the Foreign Ministry, the project provides for the selection every year of a capital of contemporary art with which to establish connectivity. In concurrence with the World Fair, for 2010 the capital selected was Shanghai, where from June 4 to July 12 an exhibition of the award-winning works of the Terna Prize 02 was held at the SUPEC - Urban Planning Exhibition Center.
- **Campiello Foundation:** Terna supported the 48th edition of the Campiello Literature Prize, which is organized and promoted by the Veneto Confindustria.

Kami and the electricity mission of the Terna volunteers

EC8

More than 10,000 kilometers from Italy, in Kami – an extremely poor district 4,000 meters above sea level in the Bolivian Andes – 2010 was the decisive year for the construction of a 70-kV electric line, in which Terna played an important role.

For some time the head of the local Salesian mission, Father Serafino Chiesa, had understood that the availability of electricity – which would be possible through the restoration of an old, obsolete hydro power station – could be decisive for starting up the sustainable development of Kami.

To translate this idea into reality required enthusiasm, tenacity, and the professional capabilities of the volunteers of the COOPI, one of the oldest Italian nongovernmental organizations (NGO) for international cooperation and several Terna volunteers: Giampiero Fantini and Adriano Selva, as well as, in the final stage of the work, Claudio Cappelli, all of whom are from the Novara Operating Line Group.

To transport the hydro electricity produced by the old power station – to which a second one was subsequently added – and not consumed locally all the way to the Bolivian national grid required a new power line that was more efficient and appropriate than the existing one. That's where Giampiero and Adriano made the difference. They designed and then helped to construct 37 km of new line in order to produce, transmit, and sell the surplus electricity to the benefit of the economic development of the local population.

In this work – which grew in part because the word was passed among friends, colleagues, and retirees – Terna found several features that characterize its culture: unique technical capabilities, awareness and pride in performing work that is essential for the economy and people's welfare, the ability to transmit knowledge, and an attitude that is strongly results-based.

The great determination of our volunteer colleagues and the intrinsic soundness of the project induced Terna to

support the initiative through the granting of paid leaves and contributions to the COOPI.
During 6 missions to Kami lasting 3 to 4 weeks each, our Terna colleagues worked on the construction of the line and trained the local workforce, which is now able to perform the normal maintenance tasks on the line and to repeat the project in other areas of Bolivia.
The construction of the power line in Kami also demonstrated how professional competence and experience – if supported by great enthusiasm for one's work and the desire to do something for others – can even do without latest-generation technologies and materials and still achieve extraordinary results.
In effect, the 37-km line in Kami constitutes an extreme accomplishment in terms of both the difficulty entailed by working at altitudes where oxygen is rarified and the technical solutions adopted. Suffice it to think that the first of the 110 towers is located at an altitude of 2,650 meters and that with 6 spans the line rises about 1,000 meters and reaches 3,850 meters at the 16th tower and 4,200 after the 33rd.
The electric line in Kami is also sustainable from the point of view of the materials used, almost all of which come from equipment no longer used in Italy because it is technologically obsolete, thus prolonging its life cycle. This is the case with the line's towers, which come from an abandoned railroad line in lower Piemonte, along with a small plant, a turbine, elements, clamps, and insulators.
A total of 13 containers arrived in Kami, containing 4,000 kilos of tower parts, a restored small plant, scaffolds, stretching carriages, winches, ratchets and coils of rope for stretching, 700 elements, 700 clamps, and 6,000 insulators.
Once commissioned (by the end of October 2011), the electric line will have beneficial repercussions on the Kami district. The Chinata and Quehata power stations can supply more than 20,000 people spread out in over 150 rural communities of the Aymara and Quetchua ethnic groups.
In addition to powering with continuity users in the Kami area, the hydro electricity produced is sufficient to supply energy at a distance of up to 80 km from the power stations.
In December 2010 the project was chosen to represent Italy in the "large-company" category at the European Employee Volunteering Award, the international award organized by Business in the Community, an English organization, which is the benchmark for corporate sustainability, and the European Commission, which has established 2011 as the European Year of Volunteering. In addition to Italy, projects from 22 other countries participated in the award.
On March 25, 2011 the Kami project won the 5th "Enterprise Environment Award", an initiative of the Rome CCIAA sponsored by the UNIDO (United Nations Industrial Development Organization), in the "Best cooperation for sustainable development" category and will represent Italy at the European Business Awards for the Environment 2012, which were instituted by the General Directorate for the Environment of the European Commission to promote the organizations that have contributed to sustainable development.

Kami: The Energy Mission

The story of Kami and its new electric line provided an opportunity to develop an innovative form of cooperation between enterprises and the academy.
In effect, the intention of producing a book with photographs on it turned into an original publishing project which, with a view to sustainability, focused with conviction on young people.
Thus Terna chose to use the photos of Daniele Tamagni, a talented young up-and-coming photographer, and the travel notes of Florinda Martucciello and Irene Salvadorini, two promising students at the LUISS Writing School, which is directed by Roberto Cotroneo.
This "*equipo de comunicación*", to use the expression with which Father Serafino presented it to the people of Kami on June 2010, followed the work of Giampiero, Adriano, and Claudio, transforming – under the supervision of Roberto Cotroneo, the author of the introductory story, as well as the coordinator of the entire work – snapshots and travel notes into a story intended to convey to the reader all the emotion of this project as they experienced it on the spot.
The result is a work in which the photographs, story, and travel notes intertwine to create two distinct ways of reading it – mixing photographs and travel notes, pictures and words, descriptions and strong impressions – and getting the reader to know the real protagonists of a story that is unique in its genre.
Published by Silvana Editoriale and available in Italian and Spanish, *Kami: The Energy Mission* was presented in advance by Roberto Cotroneo at the We:Me5, the annual convention of senior and junior executives, with the assistance of three video contributions, in which Giampiero Fantini and Adriano Selva tell about their experience in Kami. *Terna News* and the Intranet then gave the project a lot of publicity throughout the Company.
Finally, in December 2010 the LUISS hosted the public presentation of the book, during which Terna's Chief Executive Officer, Flavio Cattaneo, and the Director General of the LUISS, Pierluigi Celli, connected with Kami to greet Father Serafino.

“Vote your value”, the 2010 charitable initiative

Terna’s great concern for corporate behavior that respects its stakeholders was expressed concretely between the end of 2009 and the beginning of 2010 in a new campaign to disseminate the Code of Ethics, which was reinforced by coupling it with the “Vote your value initiative.
All the people who work at Terna were asked to vote the value they preferred among those on which the Code of Ethics is based to guide the Company in allocating the funds appropriated for charitable initiatives in 2010.
The vote of 2,124 employees, amounting to 61.6% of the internal population, made it possible to create a strong link between Terna’s corporate giving and the values of its Code of Ethics through its support of projects selected in accordance with the values that received the most votes.
Terna’s people cast 950 votes for Legality/Honesty, 454 for Respect, and 376 for Responsibility/Good Management. Transparency received 163 votes and Fairness 134, while 47 ballots were either blank or null. Consequently, 3 projects were identified that were in keeping with the value that received the most votes, 2 for the one that placed second, and 1 for the third one. Each project received a contribution of 5,000 euro.
In selecting the projects, the Company favored those developed by organizations that for some time have been focused on the value voted and are endowed with appropriate characteristics of trustworthiness. Subscription of the “Charter of Values” of the Istituto Italiano della Donazione (Italian Institute of Giving) constituted a preferential qualification.
The projects chosen for Legality/Honesty were **Upgrading the Statera district** of the CIAI (Italian Center for Assistance to Children), **A permanent free musical school in Scampia** of the Cannavaro and Ferrara Foundation, and the ethics lessons in high schools of **Transparency International Italy**, an international organization engaged in fighting corruption. As proposed by the non-profit organization that chose to split Terna’s contribution in two, Respect was linked with the **Silver Thread** and the **“Leonardo Sciascia” Association** of the AUSER and the **Program on good practices in health care** of the Patient’s Forum. The promotion of the Roman kiln in **Lonato del Garda** – an archeological find on a Terna site – is the project selected for Responsibility/Good Management.
To promote a culture of responsible giving, at the end of 2010 visits to the projects were organized for Terna employees, who were able to check the actual use of the contributions. A delegation of the Milan AOT visited the “Statera” educational center, which was created to prevent phenomena such as school absenteeism, bullying, and the formation of children’s gangs, which are characteristic of a lower-class neighborhood with a massive presence of immigrant families, both legal and illegal.
In Padua, Terna visited the telephone service of the local AUSER, where 30 volunteers work, listening to the elderly and receiving their requests for services or company at home or over the phone.
Employees in Palermo, instead, visited the AUSER’s “Leonardo Sciascia” Association in Borgo Olivia, which has become a place where residents of the area can participate in an abundant program ranging from soft gymnastics, dancing, and information technology to music workshops, needlework, and acting, as well as offer their experience in spontaneous after-school activities for the neighborhood kids and those from nearby halfway houses.

The Terna Prize: three years of commitment to contemporary Italian art

Torso by Ettore Spalletti, first place in the Terawatt category, Terna Prize 03.

The objective of the Terna Prize for Contemporary Art, of which the third edition took place in 2010, is to support and promote Italian art and culture, in cooperation with the Ministry of Cultural Assets and Activities, through an original formula of synergy between the art system and that of business.
For Terna, attention to what is contemporary is translated daily into research, creation, and experimentation with innovative solutions in the development of Italy's energy infrastructure. The development of a cultural project of its "own" makes the Company's continual commitment to return value to communities concrete and reflects the birth of a new corporate patronage.
Boosted by Terna's determination to promote talent and its partnership with institutions, galleries, museums, collectors, and entrepreneurs, in only three editions the Prize has enabled the main techniques of contemporary art – painting, photography, digital media, video, new pictorial techniques, and light boxes – to be mapped, becoming the first real network of excellence among all the insiders of contemporary art in Italy. From the quantitative point of view, the competition has attracted more than nine thousand works, an average of three thousand per edition, a record for Italy in this field. From the qualitative point of view, the widespread participation of both up-and-coming and established artists, as well as the abundant participation from abroad (New York and Shanghai), have shown that there is great interest in the art world.
Many innovations have been introduced: the competition is democratic in access, meritocratic and interdisciplinary in its assessment of works, and entrepreneurial in its objectives of promotion. Major features are its periodical research to discover trends and strong and weak points of the system and its choice of the web as the favored channel of communication and dissemination.
Every year the competition invites artists to express their creativity on subjects connected with the transmission of energy. The creative response has been surprising on themes that over the years have been increasingly enhanced with meanings and levels of interpretation. In 2010, the theme of the third edition was **(+150) Vision: Origin and Power. Energy through the Generations**, prompted by the Unification of Italy, which was a stimulus for the discovery of the strength of vision and intuition and was anchored to the phenomenon of the transmission of energy across generations and history.
The story of the winners of the Prize is a success story, with new opportunities to interact with the market, trips to New York and Shanghai, exhibitions visited by more than 90,000 people: a major journey of emersion. The 13 winners in 2010 were awarded purchase prizes and a 3-month artist residency program at the Red Gate Gallery in Beijing and at the Cittadellarte - Fondazione Pistoletto.
The numbers of the Terna Prize 03 in only four months:

- 3,119 works registered, 23 famous artists
- final exhibition at the end of December at Hadrian's Temple in Rome, with more than 20,000 visitors
- 4 million page visits on the www.premioterna.com website
- over 130,000 subscribers to the Prize newsletter
- 721 press-review articles
- 2 English/Chinese catalogues
- 3 exhibitions: Naples, Shanghai, Rome
- 1 ISPO survey.

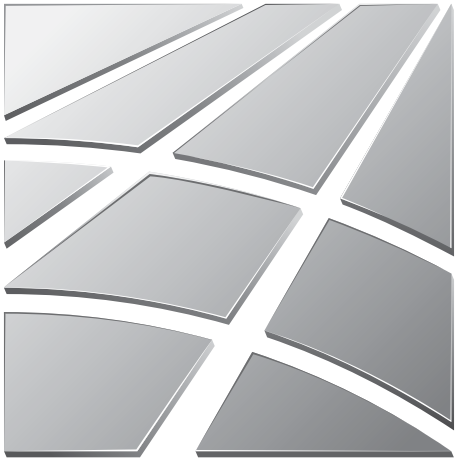
There were three significant innovations in the third edition:

- the "**More Energy in the Museum**" initiative: a prize for the best museum project for growth and promotion presented by the directors of AMACI (Association of Italian Museums of Contemporary Art) museums to support entrepreneurship in the field and promote museums that show vision with regard to their local area.
- The Terna Prize opened for Chinese artists and was invited, as an example of Italian entrepreneurial and cultural success and excellence, to exhibit in Shanghai – at the SUPEC (Urban Planning Exhibition Center) – as part of the initiatives organized by Italy for Expo 2010.
- The Honorable Mention "**alTERNAtive**" awarded to three artists for an intuitive, non-didactic reflection on the flag, told with symbolic quality, moral intensity, and poetry. "alTERNAtive" is the title chosen for the Honorable Mention, because it sums up the idea that the flag, which at times is a banal stock image, can instead be interpreted differently and transmit its original energy again.

Angel

AT THE END OF 2010 ONLY 5 POLES WERE LACKING TO COMPLETE THE 37 KM OF THE LINE, WITH 110 OF THEM ALREADY PUT UP, MANY OF WHICH CAME FROM AN OLD RAILROAD LINE. OVER THE YEARS, THE GRAPEVINE AT TERNA HAS ENABLED THEM TO RECYCLE 4,000 KILOS OF STRUCTURAL STEEL, 6,000 INSULATORS, 700 ELEMENTS-IN ALL, 13 CONTAINERS. BY THE END OF OCTOBER 2011, AT LAST THE TEST .

2010



Indicator Tables

Terna

The following tables contain indicators that are additional to those provided for by the G3 Sustainability Reporting Guidelines, but Terna believes it is important to publish them to describe its performance in the field of corporate social responsibility. In several cases, data already presented in the body of the Report are also shown for the sake of completeness.

The indicators are organized in five areas corresponding to the structure of the Report, as well as in thematic sections according to the following scheme.

Area	Section
1. Terna profile	Corporate Governance Ethical Auditing
2. Responsibility for the electricity service	The grid
3. Economic responsibility	Shareholders Providers of capital Suppliers Customers - Regulated market
4. Environmental responsibility	Environmental performance
5. Social responsibility	Number and composition of employees Employee satisfaction and development Safety Relations with labor unions

With respect to the tables published in the 2009 Sustainability Report, the following changes should be noted.
- The “Sustainability indices that include Terna” and “Equal opportunity” tables are not presented, because they are included in, respectively, the “Terna profile” and “Social responsibility” chapters.
- In the indicator tables regarding responsibility for the electricity service, the 2009 figure for “power supplied” has been recalculated.
- In the indicator tables regarding economic responsibility, the 2009 figure for “Revenue” has been recalculated.
- In the indicator tables regarding environmental responsibility, the 2008 and 2009 figures for “Gasoline for vehicles” and “Diesel fuel for vehicles” have been recalculated.

For each indicator the tables show:
- the unit of measurement
- the figures for 2010, 2009, and 2008
- if it is significant, the absolute change between 2009 and 2010
- if it is significant, the percentage change between 2009 and 2010.

The boundary concerned is Italy and for the economic figures Terna S.p.A.
The data are normally calculated as of December 31 and flow indicators regard the entire year.
To facilitate reading the indicators, the following table shows the units of measurement in which they are expressed. See also the table of acronyms and the glossary after the indicators.

UNITS OF MEASUREMENT LEGEND

#	category
%	percentage
€	euro
€/000	thousands of euro
€/mln	millions of euro
GWh/y	gigawatt hours per year
h	hours
kg	kilograms
km	kilometers
min	minutes
MW	megawatts
MWh	megawatt hours
n	number
t	tons
y	years

Terna profile

Corporate Governance

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
Board of Directors						
Total members BoD	n	9	9	9	0	-
Independent Directors on BoD	n	4	4	4	0	-
Directors designated by minority shareholders	n	3	3	3	0	-
Women on BoD	n	0	0	0	0	-
Meetings of BoD	n	8	9	13	-1	-11.11%
Meetings of Compensation Committee	n	4	3	3	1	33.30%
Meetings of Internal Control Committee	n	4	7	10	-3	-42.90%
Meetings of Committee on Transactions with Related Parties (1)	n	1	-	-		

Board of Directors	Unit	2010	2009	2008	change 09-10	change 09-10%
Implementation of the Code of Ethics						
Total reports received (2)	n	4	1	3	3	300%
Total violations of Code of Ethics ascertained	n	0	0	0	0	-

(1) The Committee on Transactions with Related Parties was instituted as part of the approval of the Transactions with Related Parties Procedure provided for by the Consob with its resolution on March 12, 2010.
(2) In 2010, 3 of the 4 reports received were delivered to the Ethics Committee and one to both the Ethics Committee and the Audit Department.

Responsibility for the electricity service

The grid

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
Electrical stations						
380 Kv						
Stations	n	141	136	135	5	3.7%
Power transformed	MVA	92,498	88,284	86,220	4,214	4.8%
220 kV						
Stations	n	150	147	143	3	2.0%
Power transformed	MVA	30,114	30,265	29,452	-151	-0.5%
Lower voltages						
Stations	n	140	100	93	40	40.0%
Power transformed	MVA	2,960	2,953	2,868	7	0.2%
Total						
Stations	n	431	383	371	48	12.5%
Power transformed	MVA	125,571	121,501	118,539	4,070	3.3%
Electrical lines						
380 kV						
length of 3-wire circuits	km	11,759	11,212	10,727	547	4.9%
length of lines	km	10,860	10,313	9,821	547	5.3%
220 kV						
length of 3-wire circuits	km	12,089	12,083	12,113	6	0.0%
length of lines	km	9,737	9,725	9,771	12	0.1%
Lower voltages						
length of 3-wire circuits	km	39,730	39,208	21,332	522	1.3%
length of lines	km	37,040	36,653	19,864	387	1.1%
Total						
length of 3-wire circuits	km	63,578	62,503	44,172	1,075	1.7%
in underground cable	km	1,249	1,043	465	206	19.8%
in underwater cable	km	1,348	914	434	434	47.5%
in 200-, 400-, 500-kV direct current	km	2,066	1,560	1,068	506	32.4%
length of lines	km	57,637	56,691	39,456	946	1.7%
in underground cable	km	1,249	1,043	465	206	19.8%
in underwater cable	km	1,348	914	434	434	47.5%
in 200-, 400-, 500-kV direct current	km	1,746	1,240	749	506	40.8%
% direct-current connections						
3-wire circuits	%	3,249	2.5	2.4	0.75	30.0%
lines	%	3,029	2.19	1.7	0.84	38.3%
Grid efficiency						
Energy supplied	GWh/y	326,165	320,268	337,600	5,897	1.8%
Technical quality						
Service-continuity indices						
ASA (Average System Avalibility) (2)	%	99.23	99.03	99.15	0.19	0.2%
SAIFI + MAIFI (System Average Interruption Frequency Index)	n	0.15	0.19	0.22	-0.04	-21.1%
AIT (Average Interrumption Time) (3)	min	0.94	0.55	0.66	0.39	70.9%
ENS (Energy Not Supplied) (4)	MWh	987	800	1.166	187.00	23.4%

(1) The 2009 figure was recalculated using the final data of the same year, and thus is different from the one reported in the preceding edition of the Sustainability Report, amounting to 317,602, which was calculated according to the provisional data for 2009.
(2) The indicator is the total ASA (used in international benchmarks), calculated with regard to single Local Areas or for the entire country taking into account: planned unavailability, occasional unavailability, unavailability because of malfunctions, unavailability because of external events, and unavailability because of development work.
(3) Average interruption time of the National Transmission Grid in a year, calculated as the ratio between the energy not supplied in a certain period (ENS value) and the average power absorbed by NTG in the period considered.
(4) Energy not supplied because of interruptions on the NTG during the period. The calculation of the ENS excludes significant incidents. With the coming into effect of the 2008-2011 regulatory period and with resolutions 341/07and 333/07, since January 1, 2008 by Significant Incident is meant an interruption during which the energy not supplied amounts to more than 250 MWh.

Economic responsibility

Shareholders

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
Composition of shareholder base						
Other institutional and retail investors	%	53.60	55.88	59.70	-2.28	-4.1%
Cassa Depositi e Prestiti S.p.A.	%	29.86	29.99	29.99	-0.13	-0.4%
Major institutional investors	%	11.44	9.01	5.20	2.43	27.0%
Enel S.p.A.	%	5.09	5.12	5.10	-0.03	-0.6%
Socially responsible investors (ISR) (1)						
ISR funds	n	97	67	38	30	44.8%
Terna shares held by ISR funds	%	14.3	14.6	10.0	-0.3	-2.1%
ISR weight in institutional funds	%	39.7	40.6	31.3	-0.9	-2.1%
Share performance						
Financial performance of shares	%	5.33	28.48	-15.34	-23.15	-81.3%
Dividend yield (2)	%	6.66	6.55	6.93	0.11	1.6%
Terna in stock indices						
FTSE Italia All-Share (3)	%	1.62	1.44	1.22	0.18	12.5%
FTSE MIB (3)	%	1.76	1.63	1.58	0.13	8.0%
Shareholder return						
EPS (earnings per share)	€	0.306	0.385	0.168	-0.08	-20.5%
DPS (dividend per share)	€	0.21	0.19	0.16	0.02	10.5%
Total shareholder return (TSR)						
- since the IPO	%	171.77	142.28	76.65	29.48	20.7%
- since the beginning of the year	%	12.17	37.16	-10.30	-24.99	-67.3%
Communication with shareholders						
Meetings/conference calls with investors (buy-side)	n	270	342	157	-72	-21.1%
Meetings/conference calls with financial analysts (sell-side)	n	368	338	248	30	8.9%
Meetings with investors dedicated to or with time for CSR issues	n	5	3	5	2	66.7%
Requests for information from retail investors (4)	n	18	29	27	-11	-37.9%
Economic performance						
Revenue (5)	€/mln	1,505.1	1,324.7	1,196.1	180.4	13.6%
EBITDA	€/mln	1,069.3	933.8	850.7	135.5	14.5%
EBIT	€/mln	750.5	654.4	597.2	96.1	14.7%
EBT	€/mln	662.8	505.3	509.9	157.5	31.2%
Net income (6)	€/mln	433.7	790	335.3	-356.3	-45.1%
ROACE	%	11	11	12	-0.4	-3.7%

(1) Investments made on the basis of ethical criteria in additional to traditional ones.
(2) The value was calculated as the ratio between the dividend paid for the year considered and the average reference price in December.
(3) Since June 1, 2009, the S&P/MIB and the Mibtel have been called, respectively, FTSE MIB and FTSE Italia All-Share.
(4) The figure takes into account requests received via e-mail.
(5) Following the application of the IFRIC 12 (Agreements for services in concession), since January 1, 2010 the costs and revenues regarding dispatching investment have been recorded as construction costs and revenues. Consequently, the corresponding comparative balances for 2009 have likewise been reclassified.
(6) The change in net income for the year between 2010 and 2009 is due to the incidence of the net income from the now ceased operations in Brazil for 2009.

Providers of capital

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
Debt						
Financial debt	€/mln	4,203.8	3,260.9	2,954.1	942.9	28.9%
Equity	€/mln	2,534.3	2,468.3	2,028.0	66.0	2.7%
Debt to equity ratio	%	165.9	132.1	145.7	33.8	25.6%
EIB loans						
Remaining debt on EIB loans	€/mln	1,080.1	766.7	811.4	313.3	40.9%
Ratings [1]						
S&P (since Sept. 2, 2004)						
Outlook	Index	Stable	Stable	Negative		
M/L term	Index	A+	A +	AA -		
Short term	Index	A-1	A - 1	A - 1 +		
Moody's (since Sept. 2, 2004)						
Outlook	Index	Stable	Stable	Stable		
M/L term	Index	A2	A2	A1		
Short term	Index	Prime-1	Prime -1	Prime-1		
Fitch (since May 4, 2006)						
Outlook (issuer)	Index	Stable	Stable	Stable		
M/L term (issuer)	Index	A	A	A +		
Short term (issuer)	Index	F1	F1	F1		
Fitch Senior Unsecured Debt	Index	A+	A+	AA -		

(1) Source: Bloomberg as of December 30, 2010.

Suppliers

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
Number of suppliers						
Number of suppliers with contracts	n	2,316	2,308	1,841	8	0.3%
Procurement of materials and services						
Supplies	€/mln	404.9	461.3	341.7	-56.4	-12.2%
Work	€/mln	772.8	253.2	188.5	519.7	205.3%
Services	€/mln	151.1	210.9	120.3	-59.9	-28.4%
Management instruments						
Eligible companies registered	n	260	180	303	80	44.4%
Categories qualified	n	40	36	36	4	11.1%
On-line tenders	n	5	10	10	-5	-50%
Litigation with suppliers						
Proceedings pending	n	22	16	16	6	37.50%
Proceedings initiated	n	6	0	3	6	
Proceedings concluded	n	0	0	4	0	-

Customers - Regulated market

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
Customer portfolio						
Users of the transmission service						
Distributors directly connected to the National Transmission Grid	n	19	19	21	0	-
Users of the dispatching service						
Users of injection dispatching	n	86	77	75	9	11.7%
Users of withdrawal dispatching	n	109	106	102	3	2.8%

Litigation with customers

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
Litigation with customers						
Proceedings pending	n	12	8	7	4	50.0%
Proceedings initiated	n	4	1	4	3	300.0%
Proceedings concluded	n	0	0	0	0	-

Environmental responsibility

Environmental data

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
SF_6 emissions						
Percentage of SF_6 leakage out of total	%	0.73	0.89	1.07	-0.15	-17.5%
Emissions of SF_6 greenhouse gases	kg	2,645.3	3,005.4	3,410.0	-360.1	-12.0%
Quantity of SF_6	kg	362,174.2	339,467.7	318,694.3	22,706.4	6.7%
- in equipment in operation	kg	325,852.6	305,780.9	288,628.6	20,071.6	6.6%
- in cylinders	kg	36,321.6	33,686.8	30,065.8	2,634.8	7.8%
Waste management (1)						
Waste produced	t	5,515.9	7,053.3	8,010.7	-1,537.4	-21.8%
Waste recycled	%	89.1	83.0	90.8	0.1	7.3%
Non-hazardous special waste						
Machines, equipment, towers, cable conductors						
- quantity produced	t	1,682.5	2,250.9	1,866.7	-568.4	-25.3%
- quantity delivered for recycling	t	1,614.5	2,096.8	1,763.3	-482.3	-23.0%
Packing						
- quantity produced	t	275.2	242.6	131.9	32.6	13.4%
- quantity delivered for recycling	t	259.5	204.1	107.1	55.4	27.1%
Other						
- quantity produced	t	544.9	564.0	2,002.6	-19.2	-3.4%
- quantity delivered for recycling	t	189.4	233.4	1,783.4	-44.1	-18.9%
Total non-hazardous special waste						
- quantity produced	t	2,502.6	3,057.5	4,001.2	-554.9	-18.1%
- quantity delivered for recycling	t	2,063.3	2,534.4	3,653.8	-471.0	-18.6%
Hazardous special waste						
Machines, equipment, towers, cable conductors						
- quantity produced	t	2,226.6	2,746.1	2,914.7	-519.5	-18.9%
- quantity delivered for recycling	t	2,194.9	2,554.8	2,808.2	-359.8	-14.1%
Oils (2)						
- quantity produced	t	649.2	933.2	992.8	-284.0	-30.4%
- quantity delivered for recycling	t	536.3	544.4	707.7	-8.1	-1.5%
Lead batteries						
- quantity produced	t	106.5	185.3	73.0	-78.8	-42.5%
- quantity delivered for recycling	t	106.5	185.3	72.1	-78.9	-42.6%
Waste consisting of material containing asbestos						
- quantity peoduced	t	0.0	69.2	31.1	-69.2	-100.0%
- quantity delivered for recycling	t	-	-	-		
Other						
- quantity produced	t	31.1	61.9	112.8	-30.8	-49.7%
- quantity delivered for recycling	t	11.8	37.5	12.6	-25.7	-68.5%
Total hazardous special waste						
- quantity produced	t	3,013.3	3,995.7	4,009.6	-982.4	-24.6%
- quantity delivered for recycling	t	2,849.5	3,322.0	3,616.8	-472.5	-14.2%
Consumption						
Direct consumption						
Gasoline for vehicles (3)	t	158.8	155.8	148.6	2.9	1.9%
Diesel fuel for vehicles (3)	t	1,721.4	1,673.9	1,569.0	47.6	2.8%
Diesel fuel for generating groups and heating	t	297.5	306.5	192	-9.0	-2.9%
Methane gas for heating	thousands of m^3	186.5	157.5	124.0	29.0	18.4%
Indirect consumption						
Consumption of electricity	GWh	190.0	176.0	171.0	14.0	8.0%
Environmental litigation						
Proceedings pending	n	153	163	180	-10	-6.1%
Proceedings initiated	n	16	11	31	5	45.5%
Proceedings concluded	n	26	28	23	-2	-7.1%

(1) Only waste from the production process is included, and thus waste produced by service activities (urban waste) is excluded. Waste belonging to the "Excavation earth and rocks" and "Effluent" categories is excluded, because – being connected with the construction of works in stations – it is exceptional and would therefore make the data series non-homogeneous, especially if the quantity is significant. The value of the "Excavation earth and rocks" and "Effluent" amounted to 1,541 tons in 2010, 16,053 tons in 200, and 69,023 tons in 2008.

(2) "Oils" comprises the figures reported for the separate items "Exhausted oils with PCBs>25 ppm" and "Exhausted oils without PCBs or with PCBs < a 25 ppm" for 2008.

(3) The consumption reported in the table includes only the vehicles in the Terna fleet that during the period considered refueled at least once as shown by the fuel records. Only the consumption of operating (i.e. non-managerial) vehicles is included. The 2009 and 2010 figures were reclassified in the light of the new boundary.

Social responsibility

Number and composition of personnel

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
Number						
Number of employees	n	3,468	3,447	3,524	21	0.6%
Inflow during the year	n	178	57	155	121	212.3%
Outflow during the year	n	157	134	126	23	17.2%
Composition						
Professional status						
Senior executives	%	1.7	1.9	1.8	-0.2	-10.1%
Junior executives	%	14.5	14.2	13.8	0.3	2.4%
White-collar workers	%	54.5	54.4	54.1	0.1	0.3%
Blue-collar workers	%	29.3	29.6	30.3	-0.3	-1.0%
Education						
University graduates	%	19.2	18.0	17.0	1.2	6.9%
High school graduates	%	46.5	45.6	45.0	0.9	1.9%
Vocational school graduates	%	16.2	17.0	17.0	-0.8	-4.9%
Elementary/middle school graduates	%	18.2	19.4	21.0	-1.2	-6.4%
Age and years at Terna						
Average age	y	45.6	46.4	46.1	-0.8	-1.8%
Average years at Terna (1)	y	20.5	21.5	21.3	-1.0	-4.5%
Flexible employment						
Fixed-term contracts (2)	n	107	73	166	34	46.6%
Beginner and training contracts that became permanent during the year	n	61	120	56	-59	-49.2%
Interns and apprentices	n	34	12	13	22	183.3%
Part-time employees	%	0.9	0.9	0.8	0.0	-
Overtime work	%	6.3	6.1	5.5	0.2	2.9%

(1) In the case of employees who began to work at the Company following the acquisition of corporate divisions, the average number of years at Terna takes into account their preceding employment.
(2) The values include beginner contracts and fixed-term contracts.

Employee satisfaction and development

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
Compensation						
Average cost per employee [1]	€	78,564	75,643	70,500	2,921	3.9%
Executive employees with stock options [2]	n	14	14	15	0	-
Executive employees with long-term incentive schemes (LTI)	n	47	47	44	0	-
Variable compensation as % of fixed pay [3]	%	9.4	9.0	8.0	0.4	4.1%
Training						
Hours of training per employee	h	49	47	53	2	4.3%
Training expense per employee [4]	€	387.9	389.4	300.0	-1.5	-0.4%
Training coverage [5]	%	96	91	96	5	5.5%
Corporate climate						
Total spontaneous resignations	n	41	26	28	15	57.7%
Absences per employee [6]	h	107	103	112	4	3.9%
Litigation with employees						
Proceedings pending	n	32	37	51	-5	-13.5%
Proceedings initiated	n	7	3	13	4	133.3%
Proceedings concluded	n	12	17	31	-5	-29.4%

(1) By employee is meant every employee of the Company, including executives.
(2) There is only one stock-option plan, which was resolved on December 21, 2005 and ends in 2013.
(3) The values regard the incentives paid all employees, including executives. Fringe benefits are excluded.
(4) Training expenses include neither the cost of sessions missed nor the hours of instruction provided directly by employees.
(5) % of employees who took at least one training course during the year.
(6) This figure regards the number of non-contractual absences during the year.

Safety

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
Employee occupational injuries						
Occupational injuries	n	50	36	50	14	38.9%
- fatal	n	0	0	1	0	-
- serious	n	2	0	1	2	-
Injury rate (1)	%	1.56	1.21	1.72	0.35	28.4%
Lost day rate (2)	%	58.4	40.0	329.1	18.38	45.9%
Safety expense per employee (3)	€	165.7	242.1	1,043.0	-76.36	-31.5%
Periodical health inspections	n	2,364	2,088	2,049	276	13.2%
Occupational injuries of contractor emploiyees						
Occupational injuries of contractor employees	n	14	na	8	14	-
- serious	n	5	1	0	4	400.0%
- fatal	n	0	1	2	-1	-100.0%

(1) This is the number of injuries with at least one day of abstention from work divided by the number of hours worked during the year, multiplied by 200,000 (corresponding to 50 work weeks x 40 hours x 100 employees). The formula is in line with the criteria of the Global Reporting Initiative. This indicator is also calculated in accordance with the UNI 7249:2007 standard by the following formula: N/H x1,000,000, where N is the number of injuries with at least one day of abstention from work that occurred during the year and H is the number of hours worked during the same period. According to this calculation method, the injury rate would be 8.6 in 2008, 6.07 in 2009, and 7.80 in 2010

(2) This is the ratio between the days not worked because of injury and the days worked during the year, multiplied by 200,000. The days are calendar days and are counted from the day the injury occurred. The formula is in line with the criteria of the Global Reporting Initiative. This indicator is also calculated in accordance with the UNI 7249:2007 standard by the following formula: G/H x1.000, where G is the number of days of actual days of disability during the year and H the number of days worked during the same period. On the basis of this calculation method, the serious injury rate would be 1.7 in 2008, 0.2 in 2009, and 0.29 in 2010.

(3) The values regard the expense incurred for the purchase of individual protection devices (IPD) and clothing.

Relations with labor unions

Indicator	Unit	2010	2009	2008	change 09-10	change 09-10%
Employee union membership						
Union membership rate	%	61.2	65.1	64.0	-3.9	-6.0%

Acronyms

ACEA	Azienda Comunale Energia e Ambiente (Municipal Energy and Environment Company)
AEEG	Autorità dell'Energia Elettrica e del Gas (Italian Authority for Electricity and Gas)
AGCM	Autorità Garante della Concorrenza e del Mercato (Italian Antitrust Authority)
AIT	Average Interruption Time
AOT	Aree Operative Territoriali (Transmission Operational Area)
ASA	Average System Availability
AU	Acquirente Unico (Italian Single Buyer)
BoD	Board of Directors
CDP	Cassa Depositi e Prestiti
CEI	Comitato Elettrotecnico Italiano (Italian Electrotechnical Committee)
CESI	Centro Elettrotecnico Sperimentale Italiano (Italian Electrotechnical Testing Centre)
CIGRE	Conseil International des Grands Réseaux Electriques à Haute Tension
CONSOB	Commissione Nazionale per le Società e la Borsa (National Commission for Companies and the Stock Exchange)
CSR	Corporate Social Responsibility
DAEM	Day Ahead Energy Market
DP	Development Plan of the National Transmission Electricity Grid
DPS	Dividend Per Share
DSM	Dispatching Service Market
DT	Distance Training
EBIT	Earnings Before Interest and Taxes
EIA	Environmental Impact Assessment
EMO	Energy Market Operator
EMS	Energy Management System
ENS	Energy Not Supplied
EPS	Earnings Per Share
EPSES	Emergency Plan for the Security of the Electricity System
ERA	Exclusion, Repulsion, Attraction
ETSO	European Transmission System Operators
GAAP	Generally Accepted Accounting Principles
GIS	Geographic Information System
GRI	Global Reporting Initiative
GRTN	Gestore della Rete di Trasmissione Nazionale (National Transmission Grid Operator)
GSE	Gestore Servizi Elettrici (Electric Services Management)

HV	High Voltage
IBA	Important Bird Areas
IEA	International Energy Agency
IPD	Individual Protection Device
IPO	Initial Public Offering
ISPRA	Istituto Superiore per la Protezione e la Ricerca Ambientale
ISTAT	Italian National Statistics Institute
MBI	Maintenance and Business Intelligence
MBO	Management By Objectives
MED	Ministry for Economic Development
MEF	Ministry of Economy and Finance
MELC	Ministry for the Environment and Land Conservation
MPA	Ministry for Productive Activities (now the Ministry for Economic Development - MED)
N.A.	Not Available
NCC	National Control Centre
NTG	National Transmission Grid
OECD	Organisation for Economic Cooperation and Development
PCB	Polychlorinated biphenyls
PCT	Polychlorinated terphenyls
ROACE	Returns on Average Capital Employed
S&P	Standard & Poor's
SCADA	Supervisory Control And Data Acquisition
SEA	Strategic Environmental Assessment
SETSO	South European Transmission System Operators
SISTAN	National Statistical System
SRI	Socially Responsible Investment
TFR	Trattamento di Fine Rapporto (Staff Severance Indemnity)
TSO	Transmission System Operator
TSR	Total Shareholder Return
UCTE	Union for the Coordination of Transmission of Electricity
VHV	Very High Voltage
ZPS	Special Protection Area

Glossary

231 Organisational Model
231 Organisational Model takes its name from Legislative Decree no. 231, 2001. This decree imposes a company liability in case of specific crimes perpetrated by managers, employees or partners in the interest or advantage of the company itself (e.g. public managers bribery, company frauds, crimes against private person, market abuse). The model is a set of guidelines, procedures, training commitment and control mechanisms that aim to prevent the risk of committing such crimes. 231 Organisational Model thus represents an integrated system to avoid specific risks; when defined according to law instructions, this system ("231 Organisational Model") can also avoid sanctions to the company – or reduce their extent – in case the crimes are actually perpetrated.

Accident frequency index
This is calculated using the following formula: N/H*1,000,000, where N is the number of accidents with at least one day's absence from work during the year, and H is the number of hours worked during the same period.

Accident seriousness index
This is calculated using the following formula: G/H*1,000, where G is the number of effective days of unavailability during the year, and H is the number of hours worked during the same period.

AIT (Average Interruption Time)
Average duration of interruption of supply to the electrical system during the year.

ASA (Average System Availability)
Average real availability of all elements of the National Transmission Grid during the period.

Availability of a grid element
State in which a grid element may be used for transmission activities under the conditions provided under operational consistency as set forth in Attachment 1 of the Operator/Owner Standard Agreement.

Average number of outages per grid user (N)
The average number of outages per grid user directly connected to the NTG is defined by the following formula:

$$\frac{\sum_{i=1}^{n} Ui}{Utot}$$

Where the sum includes all n outages that occurred in the period and/or calendar year and area, and where:
- Ui is the number of users involved in the nth considered outage;
- Utot is the total number of users directly connected to the NTG during the calendar year.

Balancing Services Market (BSM)
The market provided and regulated within the Dispatching Service Market (DSM) for the procurement of the resources necessary for balancing.

Bay
Group of power plants and accessory plants serving a power line or a transformer which connect the Grid elements to the bar system of a power station.

Bersani Decree
Legislative Decree no. 79 of March 16, 1999, which was issued to implement EC Directive no. 96/92/EC, regarding shared standards for the domestic electricity market and the liberalisation thereof.

Bilateral contract
An energy supply contract between two market operators.

Code of Ethics
It is often called a "business charter", as it represents the foundation of the company's culture and explicitly sets forth the rights and duties and areas of responsibility that the business undertakes to respect in dealing with its stakeholders. It is an official document, signed by the BoD, which requires the compliance of all personnel.

Congestion Resolution Market (CRM)
The market provided and regulated within the Dispatching Service Market (DSM) for the procurement of the resources necessary for resolving congestion.

Connection
The group of grid elements forming the transmission line, and the bays at the borders of the same, including the related circuitry isolating apparata. Connections are classified by voltage level with reference to rated voltage. The length of the connection is generally the length of the line which forms the connection itself.

Connection line
Any power line that links the power distribution plant with the user's plant, or the power distribution plant with the connection station.

Connection station
Power station which is part of the NTG, whose supply plant is connected to one or more power lines.

Control area
Electricity system able to regulate its own production by maintaining exchanges of power with other interconnected systems at planned levels, and to contribute to the regulation of the interconnection frequency.

Control Centre
A group of plants used for the control and operation of the NTG or a User's electricity system (different from a Production System).

Control System
A group of calculation systems, data transmission lines and apparata which enables the secure and economic control of the entire electricity system.

Controlled electricity system
The group including the National Transmission Grid and directly connected users' plants, including the associated devices for ancillary services.

Corporate Governance
The form of governance of the company, meaning the system of relations between managers, directors, shareholders and other stakeholders of the company.

Corporate Social Responsibility (CSR)
"The integration, by the firms, of social and ecological concerns in their commercial operations and their relations with parties involved. Being socially responsible means not only completely fulfilling applicable legal obligations, but going beyond, to invest in human capital, the environment and in other relations with parties involved" (Green Book of the European Commission, July 18, 2001).

Customers
Businesses or distribution companies, wholesalers and the final buyers of electrical energy.

Data privacy
Data are considered confidential if, when transferred from one telecommunications and/or processing system, the data content is not to be read by unauthorised persons. This is a data and information treatment condition of direct commercial importance.

Day Ahead Energy Market (DAEM)
The trading of bids for the purchase and supply of electrical energy for each hour of the next operating day following that of trading. This market deals with the energy units which define the production and withdrawal plan for the following day (preliminary cumulative programmes).

Defence plans
The control activities – automatic and/or manual – set forth by Terna and carried out through single systems and/or plants designed to maintain or to return an electricity system to a normal condition, also passing through a reinstatement stage, once such a stage has already begun, or emergency conditions are already present.

Development
Works on the electricity grid which lead to the adjustment or upgrading of the transport, transformation, connection and interconnection capacity, or an increase in operating flexibility of the grid, or the removal of grid elements.

Direct connection to the NTG
Connection of all plants with existing circuit continuity at least in one point, without the interposition of ancillary power plants, to the NTG.

Dispatching
The activity aimed at issuing provisions for the coordinated use and operation of production plants, the National Transmission Grid, the grids connected to the same, and ancillary services of the electricity system.

Dispatching Service Market (DSM)
The market for the negotiation of the procurement of several resources required for the dispatching service. In general, it is required to be composed of several markets: Congestion Resolution Market (CRM), Reserves Market (RM), Balancing Services Market (BM).

Distribution
The transport and transformation of electrical energy on high-, medium- and low-voltage distribution grids for supply to the final customers.

Dividend Yield
Calculated as the ratio of the last dividend distributed by a company and the current price of its shares. It indicates the immediate profitability of a share.

DPS (Dividend per Share)
Dividend per Share: calculated as the total amount of dividends distributed by a company divided by its total number of ordinary shares.

EBIT (Earnings Before Interest and Taxes)
One of the key profitability indicators for typical company management. It measures company profits before taxes, financial income/charges and extraordinary components; it is also called operating profit or operating income.

EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortisation)
Profit before taxes, financial income/charges, write-downs, amortisation and extraordinary components. It is similar to the term GOP (Gross Operating Profit), which measures operating profits gross of amortisation and allocations to provisions.

EBT (Earnings Before Taxes)
A company's profits (losses) before tax.

Electricity Grid
A group of plants, lines and stations for transferring electrical energy and supplying the necessary ancillary services.

Electricity market
The system of wholesale selling of electricity, which determines which power generation systems or plants will be used to meet the demand at any moment, and determines the price of energy at that specific moment.

Electricity markets
Intended as the combination of the Energy Market and the Dispatching Service Market (DSM).

Electrocution
Phenomenon known as an electric "shock", caused by contact between a body and electrical current. This can have damaging and/or lethal effects on an organism depending on the intensity of the current and the duration of exposure.

Eligible customer
The natural person or legal entity who is free to stipulate supply contracts with any producer, distributor or wholesaler, both in Italy and abroad. Starting from May 1, 2003, eligible customers are defined as those consuming more than 100,000 kWh per year.

Emergency condition of an electricity system
Operational situation of an electrical grid which results in exceeding operating limits of grid elements and/or outages of load portions, due to faults or disturbances.

Emergency intervention
Group of operations executed following anomalies or faults on plants, to ensure the recovery of efficiency of such plants in as short a time as possible and/or enable, in emergency conditions, the local running of the plants.

Emergency Plan
Group of automatic and manual procedures implemented during critical operating period, in order to avoid or limit the going offline of the electricity system itself or part of it.

Emergency Plan for the Security of the Electricity System (EPSES)
In case of critical events, EPSES sets forth the methods for selectively suspending the supply of electrical energy to domestic and industrial users, with different levels of severity.

Energy market
Intended as the combination of the Day Ahead Energy Market (DAEM) and the Real Time Energy Market (RTEM).

Energy Not Supplied (ENS)
Energy Not Supplied due to outage, defined by the following formula:

$$\sum_{i=1}^{n}\sum_{j=1}^{m}(P_{i,j} * T_{i,j})$$

where the sum includes all outages that occurred in the period and/or calendar year and area and, for each of these, all direct and indirect users affected by the same outage, where:
n is the number of outages in the period under observation;
m is the number of users affected by the ith outage;
Ti,j is the duration (in hours) of the outage and interrupted power (MW) for the jth user affected during the ith outage;
Pi,j is the average constant value of the first 15 minutes if the duration of the interruption is less than or equal to 15 minutes; if the length exceeds 15 minutes, this is estimated based on the forecast and/or historic capacity power diagram.

EPS (Earnings Per Share)
Calculated as the ratio of net profit to the number of a company's outstanding ordinary shares.

Equity
Term used to indicate the shareholders' equity of a company; in the context of asset management, it is used to refer to the stock segment.

Ethical Auditing
Consists in verifying the application of and compliance with the Code of Ethics. The company management assigned this task must ascertain and promote continuous improvement in ethics with the company through analysis and evaluation of the ethical risk control processes.

Extraordinary maintenance
Performed for the recovery and extension of the useful life of a plant, without modifying the functional consistency or technical characteristics, as specified in Attachments 1, 2a and 2b of the Operator-Owner Standard Agreement.

Fault
The yielding of an electric component or a condition of danger to persons or things, which results in a grid element being immediately taken offline. The fault can be:
- transient, when it is eliminated through the automatic sequences of immediate opening and reclosure of the circuit breakers
- permanent, in all other cases.

Final customer
The natural person or legal entity who purchases electrical energy exclusively for their own use.

Free market
Market where producers and wholesalers of electrical energy, both Italian and foreign, compete freely to provide electrical energy to eligible customers.

Frequency
The number of oscillations per second, in which the value of the alternating current, such as voltage, varies from positive polarity to negative polarity. It is measured in Hertz (Hz).

Fringe Benefit
Compensation in kind, meaning benefits which do not consist in the payment of money, but the use of a service or an object: such as the company canteen, lunch vouchers, company car or mobile telephone.

FTSE4Good
Financial Times index which groups the best companies meeting specific sustainability requirements. These companies are identified by the EIRIS, through specific questionnaires.

Gestore Mercato Elettrico (Energy Market Operator - GME)
Joint stock company created in 2000 by GRTN, which is in charge of the economic management of the electricity market in accordance with criteria of transparency and objectivity, in order to promote competition between producers, ensuring the availability of a suitable level of power reserves.

Gigawatt (GW)
Unit of measurement equal to one billion Watts (1,000 Megawatts).

GRI (Global Reporting Initiative)
An independent international association with the aim of the development and global diffusion of the Sustainability Reporting Framework, in order to support companies which voluntarily decide to publish data regarding their economic, social and environmental performance.

Grid Code (Code for transmission, dispatching, development and security of the grid)
The document that governs the procedures regarding the activities of connection, management, planning, development and maintenance of the National Transmission Grid, as well as dispatching and measurement of electrical energy. More specifically, the Grid Code sets forth transparent, non-discriminatory regulations for:
- access to the Grid and its technical regulation
- development, management, and maintenance of the Grid
- the performance of dispatching services
- the supply of services of measurement and the aggregation of measurements
- the settlement of financial charges connected to the various services
- security of the national electricity system.

Grid diagram
Circuit infrastructure of the grid, represented in a single line diagram at a sufficient level of detail to illustrate the elements of the Grid, as well as the components making up such elements.

Grid management
The activities and procedures which determine the operations and the operations forecast, under any conditions, of a power grid. Said activities and procedures include the management of electric power flows, interconnection devices and necessary ancillary services, as well as the decisions to perform maintenance and development works.

Grid operator
The natural person or legal entity who manages a power grid, also without owning said grid.

Grid user
The natural person or legal entity who supplies or is supplied by a transmission or distribution grid.

High voltage (HV)
Rated voltage greater than 35 kV and lower than or equal to 220 kV.

Indirect connection to the NTG
Connection of all plants relevant in terms of the operations of transmission and dispatching, with existing circuit continuity at a minimum of one point, with the interposition of ancillary power plant, to the NTG.

Interconnection line
High-voltage power line in alternating current (AC) or direct current (DC) which links to different electrical transmission or distribution grids or even two generation plants.

Interconnection of electricity grid
Connection between electricity grids required for the transfer of electricity.

Internal Dealing
Governs transparency obligations in relation to the market, for operations in financial instruments of a company or its subsidiaries, performed by persons in possession of significant company decision-taking powers, and which have access to price-sensitive information (“significant persons”).

Interruption
Condition in which the voltage of the terminals delivering electrical energy for a user is lower than 1% of the rated voltage.

Interruption with notice
Interruption generally due to the execution of planned intervention and manoeuvres on the grid, preceded by notice to users involved of the duration of the interruption, using suitable means and with advance notice of no less than one day.

Interruption without notice
All cases of interruption where users are not notified in advance through suitable means and with advance notice of no less than one day. An interruption without notice may be classified as:
- long-term interruption, if it has a duration of more than three minutes
- short-term interruption, if it has a duration of more than one second but no more than three minutes
- transient interruption if it has a duration of no more than one second.

IPD (Individual Protection Device)
Any equipment designed to be worn or held by the worker, for the purpose of protecting him/her against one or more risks likely to threaten his/her safety or health in the workplace, as well as any complement or accessory designed for such purpose. IPDs must comply with Directive EEC 686/89 and subsequent modifications, with the EN 345 regulations, as well as Legislative Decree no. 475 of December 4, 1992.

IPO (Initial Public Offering)
Indicates an initial offer of shares of a company being listed. It is a synonym of “Public Offer for Sale”, “Public subscription of shares” and “New listing”.

Italian Authority for Electricity and Gas (AEEG)
Independent authority created by Law no. 481 of November 14, 1995, which is charged with regulating and controlling the electrical energy and gas sectors.

Kilowatthour (kWh)
Unit of measurement that expresses the quantity of electricity equal to 1,000 Watts provided or requested in one hour.

kV
(kilovolt=1,000 Volts) unit of measurement of voltage.

kW
(kilowatt) unit of measurement of power (1 kW=1,000 J/sec), which expresses the amount of energy per unit of time.

kWh
(kilowatthour) and its multiples MWh (Megawatthour, 1,000 kWhs), GWh (Gigawatthour, 1,000,000 kWhs) and TWh (Terawatthour, 1,000,000,000 kWhs) measure electrical energy. They are equal to an amount of kWs (and multiples) over one hour.

Load curve
Diagram which shows the power demand on an electricity grid over time.

Maintenance
Operations and works for the maintenance or recovery of efficiency, and smooth operation of the electric plants, taking into account any decrease in performance.

Medium voltage
Rated voltage greater than 1 kV and lower than or equal to 35 kV.

Megawatt (MW)
Unit of measurement equal to one million watts (1,000 kilowatts).

Monitoring
All the actions through which the current operational status of an electricity system is ascertained.

National electricity system
The national electricity system comprises the total of production plants, transmission and distribution grids, auxiliary services and interconnection and dispatching devices located in the Italian territory.

National Transmission Grid (NTG)
Electricity grid for national transmission as set forth by the Minister of Industry Decree dated June 25, 1999 and subsequent amendments and additions.

Normal alarm condition of an electricity system
Situation in which the total load demand is satisfied, in stable regime there are no violations of operating limits of system components, but the required security criteria are not met.

Normal condition of an electricity system
Situation in which the total load demand is satisfied, in stable regime there are no violations of operating limits of system components, and the required security criteria are met (criterion n-1).

Operation
The methodical use of power plants and accessories according to procedures codified in the implementation of the decisions regarding the operation of the Grid. Operation includes:
- the running of the plants in order to carry out Terna's orders and autonomous deliveries
- emergency assistance following fault or anomalies
- operations for going offline and for the security of the plants
- the monitoring of the status of the plants
- plant inspections.

Operations planning
Preparation of plans and schedules for the operation of the electricity system.

Partial availability of a grid element
State in which a grid element may be used under conditions different to those provided under operational consistency as set forth in Attachment 1 of the Operator/Owner Standard Agreement.

Permanent disturbance
Disturbance in which, following the automatic opening of the circuit breakers as a result of operation of the protection systems, irrespective of execution of the automatic rapid reclosure or slow reclosure (automatic or manual) of the circuit breakers, repair works are required on grid elements or plant components.

Planned maintenance
Maintenance, not of an urgent nature, which lasts more than or equal to 5 total days, scheduled in the annual unavailability plan, or subsequently agreed.

Planning
Definition of the usage plans, for a specific period of time, for the available means of production and transmission, in order to satisfy the energy requirements with respect to quality and continuity of service.

Power recovery
The activities coordinated by Terna in order to restore an electricity system after a black-out.

Power restart plan
Group of automatic and manual procedures which enable reinstatement of the electricity system to normal operational conditions, following the going offline of the electricity system itself or part of it.

Power station
The part of a grid which is concentrated and closed in a specified site, and used for switching electrical energy among the lines of a grid, for transferring the electrical energy between grids with different levels of voltage, and for transforming the electrical energy to the lowest voltage usable by the user.

Power supply quality
Continuity and regularity over time of the voltage and frequency values of the electrical energy supplied.

Production
Generation of electrical energy, in any way.

Rated voltage of the system
Value of the voltage used to designate or identify the system.

Rating
Letter symbol which expresses the level of risk of securities representing a specific debt. This is one of the most significant tools for forecasting and controlling the risk of insolvency in modern securities markets. Ratings are published by specialised rating agencies. The most well-known, on the global level, are Moody's and Standard & Poor's. Ratings are announced at the moment of issuing the security, but may be subsequently modified (uprating or downrating), which will positively or negatively influence the image of the company and a significant part of trading. The highest rating is indicated starting from the symbol "AAA", "AA+", to arrive at the worst rating, indicated by "D".

Real Time Energy Market (RTM)
The site of trading of bids for the purchase and supply of electrical energy in order to adjust the programmes of energy input and withdrawal defined on the Day Ahead Energy Market (DAEM).

Reinstatement condition of an electricity system
Situation in which, following total or partial load disconnection, the actions required to return the system to normal conditions are carried out.

Reliability
The fulfilment of two conditions:
- **availability:** capability to respond, statically and in every moment, to the customers' global demand for power and electrical energy at the connection points, taking into account planned and forced going offline of the components of the electricity system
- **security:** capability to respond to sudden disturbances such as short-circuits or forced loss of components of the electricity system. Thus, this aspect specifically considers transition effects which are not covered by the first criterion.

Remote control and telemetry system
Group of remote data transmission devices which allows for the management of plants and the control and measurement of the supply to the client.

Remote control equipment (with reference to the registration of the interruptions in the distribution of electrical energy)
The system used to remotely manage and supervise the high- and medium-voltage distribution grid. This system also registers, automatically and continuously, the events of opening and closure of circuit breakers and other command devices (caused both by remote commands and interventions of protection or by automatic equipment), and events of black-out in the interconnection points with the National Transmission Grid or with other operators.

Requirement
Demand for electrical energy to be satisfied by the national electricity system. It shows a variable trend throughout the day, month and year.

Reserves Market (RM)
The market provided and regulated within the Dispatching Service Market (DSM) for the procurement of the secondary and tertiary reserves.

ROACE (Returns on Average Capital Employed)
Index of return on invested capital; it is calculated as the ratio of the EBIT and net average capital employed by a company.

Routine maintenance
Activity carried out on plants or parts of plants for maintenance or recovery of efficiency and correct functioning, in relation to a fall in performance, without any modification of the number or function of the plants involved. Routine maintenance is defined as:
- periodic or cyclical if the activity regards regularly scheduled interventions independent of external causes
- conditional or predictive if the activity follows the verification or monitoring of plant functionality
- occasional if the activity follows upon the existence of anomalies.

Occasional routine maintenance is divided into:
- deferrable maintenance, if the execution of the activity may be delayed by at least one week from the moment that Terna's notified of the anomaly
- non-deferrable if the execution of the activity, based on the owner's evaluation must be performed immediately and no more than one week from the notification of the anomaly to Terna, in order to avoid danger to persons or things, or the existence of a fault
- on the fault, if the activity follows upon the existence of anomalies.

Secondary power reserve
Share of power in the generation pool which must cover the imbalance between production and load, due to random variations in requirements, errors in the forecast of requirements, unexpected unavailability of generation (for example, due to breakdowns) and unexpected variations in the programmes of exchange with foreign countries. Generally, based on the operational status of the groups which can make the reserve available, it can be classified into two categories: rotating reserves and cold reserves.

Service quality of electrical energy supply
Quality of the technical/commercial services provided to users, and the quality of the electric parameters of the energy supplied.

Single Buyer
A stock company established in 2000 by the National Transmission Grid Operator (GRTN) to guarantee Captive Customers the supply of electrical energy under conditions of continuity, security and efficiency of the service. The Single Buyer guarantees the application of a single national tariff to these customers.

SRI (Socially Responsible Investment)
Investments which take into account not only economic performance, but also social, environmental and ethical criteria. The choice of shares is guided by negative criteria (exclusion) or positive criteria (inclusion): the first type excludes specific types of companies (e.g. tobacco producers, arms manufacturers etc.) or countries which do not respect human rights or workers' rights, while the second type socially responsible companies are chosen for investment (i.e. those with CSR policies).

Stakeholder
Everyone (individuals, groups, organisations, institutions) interested in the company, especially if directly affected by company's activities in economic terms – such as shareholders, employees, customers and suppliers – but also when only indirectly affected, such as the general public bearing an interest in the protection of the environment.

Static power meter
Energy meter in which the current and voltage, when applied to an electronic measurement element, produce frequency pulses in proportion to the power.

Supervisory Control and Data Acquisition System (SCADA)
Computerised system for controlling production and transmission, with data acquisition functions and human-machine interface, for presenting data to operators in the control centers.

Telecommunications system
Infrastructure composed of a physical means and hardware/software devices required by the Primary Acquisition System in order to acquire the measurement data from the measurement devices.

Transformer
Electrical machine used for the connection and transfer of energy between grids at different voltage levels.

Transforming station
Part of a grid composed of a group of apparata used for transferring electrical energy between grids with different levels of voltage.

Transmission
Electricity transport and transformation activities along the interconnected high- and very-high-voltage grid for the purposes of delivery to customers, distributors, and recipients of self-produced energy.

Transmission activities
The activity of transporting and transforming electrical energy on the grid. Transmission activities include:
- the unified management of the Grid and the parts of electrical stations not included in said grid, but connected and functional to transmission activities pursuant to art. 3, paragraph 5, of the Decree of the Minister of Industry, Commerce and Crafts dated June 25, 1999
- the planning and identification of development activities
- annual authorisation of maintenance works.

Transmission line
High- and very-high-voltage power line, overhead or cable, used for the transport of electricity from the production plants to the distribution grids or to users.

Transmission plants
Infrastructures dedicated to the transmission of electrical energy, belonging to the NTG, such as lines and switching stations and transforming stations.

Triad
Group of three conductors (or groups of conductors), each prepared for the transport of one of the phases of the threephase electric field used on the grid in alternating current.

TSR (Total Shareholder Return)
This is the most complete measurement of value created by a company for its shareholders. It is calculated using the following formula: (Share price at end of period - Share price at beginning of period + Dividends)/Share price at beginning of period. The calculation of TSR provides the annual rate of return for an investor who purchased a security on date X and sold it on date Y. This calculation considers all paid dividends reinvested in the security at the coupon payment date.

Unavailability of a grid element
Situation in which an element of the Grid is not usable by the operator for transmission activities. Unavailability may be:
- planned, if it is included in the annual unavailability plan or in the quarterly unavailability plan, and has a duration of less than five days
- occasional, if not included in the annual plan, but included in the quarterly unavailability plan and has a duration greater than or equal to five days; or it is not included in the quarterly plan but in the monthly plan.

Occasional unavailability may be:
- deferrable, if it involves occasional maintenance which can be deferred
- non-deferrable, if it involves occasional maintenance which cannot be deferred
- due to fault, if the result of the existence of a fault
- due to external causes, if the result of the needs of third parties or events which cannot be attributed to the owner, such as: works or tests requested by operators/owners of bordering grids or other operators, natural disaster, or requirements of public authorities.

Unified Grid management
Coordinated management of all portions of the NTG.

Very high voltage (VHV)
Rated voltage with a value higher than 220 kV.

Volt
Unit of measurement of voltage.

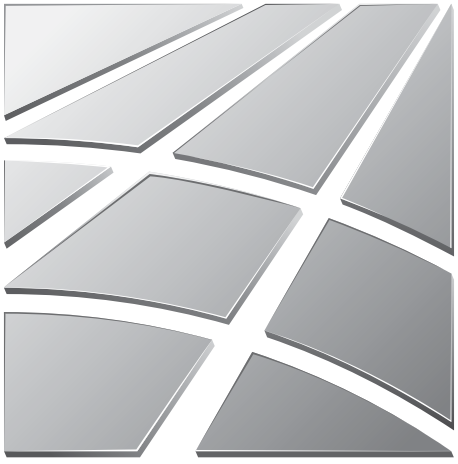
Watt
Unit of measurement of electric power.

Wholesale customer
The natural or legal person which purchases electrical energy without carrying out production, transmission, or distribution activities in the countries of the European Community.

Elizabeth

WITH ELECTRIC POWER, KAMI HAS THE CONDITIONS FOR SUSTAINABLE ECONOMIC DEVELOPMENT. THIS MEANS MORE INCOME AND A BETTER QUALITY OF LIFE, BUT FOR THE QUECHUA AND AYMARA PEOPLE IT MEANS ABOVE ALL BEING ABLE TO KEEP THEIR CULTURE ALIVE, NOT HAVING TO EMIGRATE OR – AND THIS IS PROBABLY THE MOST IMPORTANT RESULT – GIVE UP THEIR IDENTITY.

2010



Report of the External Auditors

Terna

KPMG S.p.A.
Revisione e organizzazione contabile
Via Ettore Petrolini, 2
00197 ROMA RM

Telefono +39 06 809611
Telefax +39 06 8077475
e-mail it-fmauditaly@kpmg.it

(Translation from the Italian original which remains the definitive version)

Limited assurance report on the sustainability report

To the board of directors of
Terna S.p.A.

1 We have reviewed the 2010 sustainability report of the Terna Group (the "Group"). The parent's directors are responsible for the preparation of the sustainability report in accordance with the "Sustainability Reporting Guidelines & Electric Utility Sector Supplement" issued in 2009 by GRI - Global Reporting Initiative, as set out in the "Methodological note" section of the sustainability report. They are also responsible for determining the Group's objectives in respect of sustainable development performance and reporting, including the identification of stakeholders and material issues, and for establishing and maintaining appropriate performance management and internal control systems from which the reported performance information is derived. Our responsibility is to issue this report based on our review.

2 We carried out our work in accordance with the criteria established for review engagements by "International Standard on Assurance Engagements 3000 - Assurance Engagements other than Audits or Reviews of Historical Financial Information (ISAE 3000)", issued by the International Auditing and Assurance Standards Board (IAASB). That Standard requires that we comply with applicable ethical requirements (the Code of Ethics for Professional Accountants issued by the International Federation of Accountants, IFAC), including independence requirements, and that we plan and perform the engagement to obtain limited assurance about whether the sustainability report is free from material misstatement. A limited assurance engagement on a sustainability report consists of making inquiries, primarily of persons responsible for the preparation of information presented in the sustainability report, and applying analytical and other evidence gathering procedures, as appropriate. These procedures included:

- comparing the information and data presented in the "Value added" section of the sustainability report to the corresponding information and data included in the Group's consolidated financial statements as at and for the year ended 31 December 2010, on which we issued our report dated 18 April 2011 pursuant to articles 14 and 16 of Legislative decree no. 39 of 27 January 2010;
- analysing how the processes underlying the generation, recording and management of quantitative data included in the sustainability report operate. In particular, we have performed the following procedures:
  - interviews and discussions with management personnel of Terna S.p.A. to gather information on the information technology, accounting and reporting systems used in preparing the sustainability report, and on the processes and internal control procedures used to gather, combine, process and transmit data and information to the office that prepares the sustainability report;

- sample-based analysis of documentation supporting the preparation of the sustainability report to obtain evidence of processes, their adequacy and that the internal control system correctly manages data and information in relation to the objectives described in the sustainability report;

- analysing the compliance of the qualitative information included in the sustainability report with the guidelines referred to in paragraph 1 of this report and its overall consistency, in particular with reference to the sustainability strategy and policies and the determination of material issues for each stakeholder category;

- analysing the stakeholder involvement process, in terms of methods used and completeness of persons involved, by reading the minutes of the meetings or any other information available about the salient features identified;

- obtaining the representation letter signed by the legal representative of Terna S.p.A. on the compliance of the sustainability report with the guidelines indicated in paragraph 1 and on the reliability and completeness of the information and data contained therein.

A review is less in scope than an audit carried out in accordance with ISAE 3000 and, therefore, it does not enable us to obtain assurance that we would become aware of all significant matters and events that might be identified during an audit.

The sustainability report includes the corresponding information and data of the prior year sustainability report for comparative purposes, with respect to which reference should be made our report dated 13 May 2010.

3 Based on the procedures performed, nothing has come to our attention that causes us to believe that the 2010 sustainability report of the Terna Group is not prepared, in all material respects, in accordance with the Sustainability Reporting Guidelines & Electric Utility Sector Supplement issued in 2009 by GRI - Global Reporting Initiative, as set out in the "Methodological note" section of the sustainability report.

Rome, 7 June 2011

KPMG S.p.A.

(signed on the original)

Marco Maffei
Director of Audit


Central hidroelectrica
Quehata

Coordination and Development by Terna S.p.A.

External Relations and Communication Department

Editorial Design
Interno Otto, Rome

Editing
Trans-Edit Group S.r.l., Milano

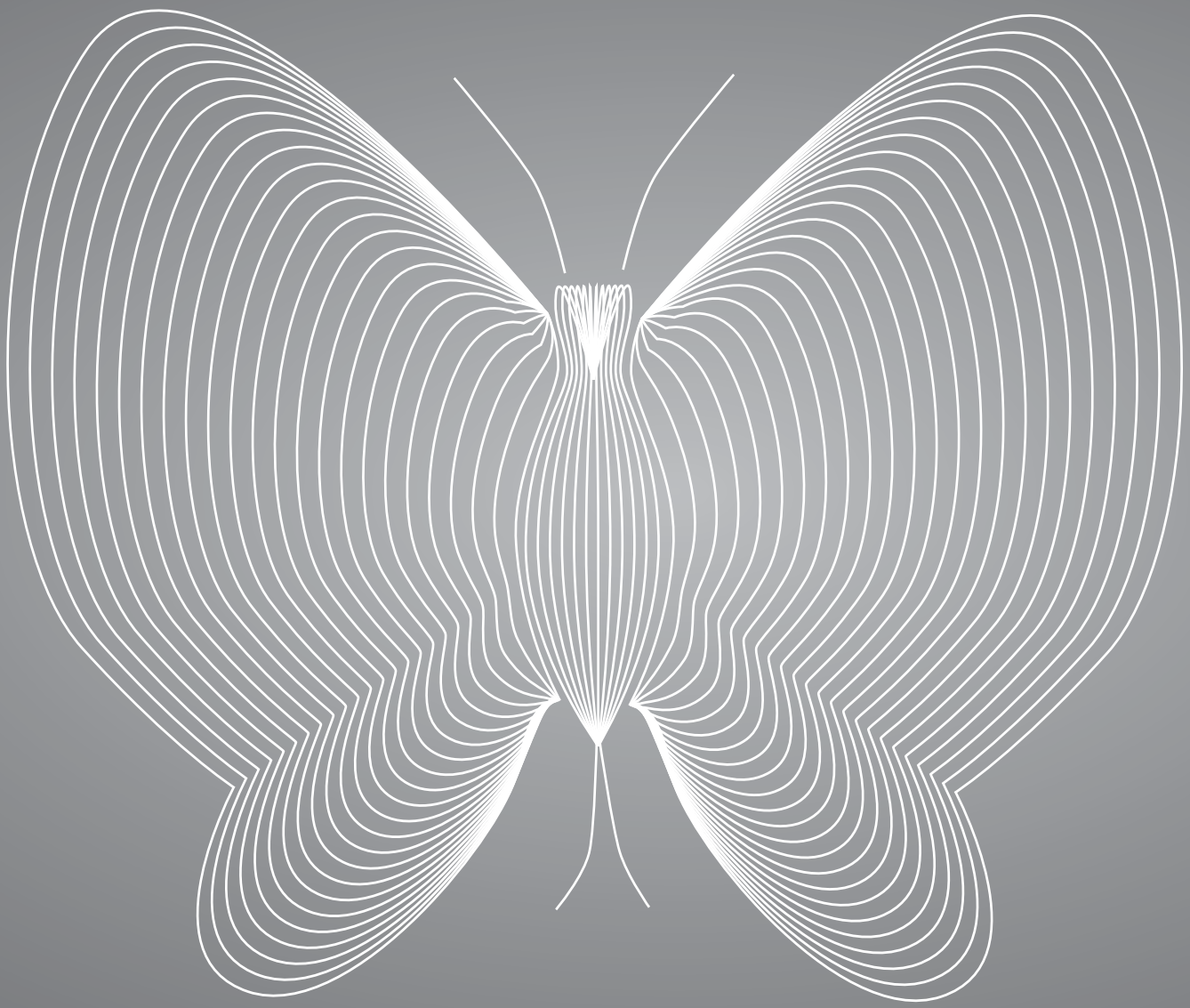
Photographs

The photographs on pages 6, 13, 14, 25, 26, 35, 47, 58-59, 60, 68-69, 82, 96, 102, 113, 122-123, 135, 136, 148-149, 163, 165, 167, 168, 180-181, 194, 199 are by Daniele Tamagni for Terna S.p.A.

The photograph on page 114 is from the WWF archives
Photographer R. Malayoli

Published in September 2011

WE WORK FOR A **GRID** THAT'S **LIGHT** FOR THE ENVIRONMENT



WORKING FOR SUSTAINABLE DEVELOPMENT
ALSO MEANS TRANSMITTING ENERGY RESPONSIBLY.
THIS IS TERNA'S JOB.

Terna

www.terna.it

00156 Rome Viale Egidio Galbani, 70
Ph. +39 06 83138111

Terna